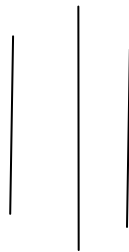


A Comparative Study on
**CAPITAL STRUCTURE
MANAGEMENT**
Of
Joint venture Banks in Nepal



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Kathmandu , Nepal
May, 2010

RECOMMENDATION

This is certify that the thesis:

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A comparative study on

CAPITAL STRUCTURE MANGEMENT

Of

Joint venture Banks in Nepal

has been prepared as approved by this Department in the prescribed format of Faculty of Management. This thesis is forwarded for examination.

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VIVA VOCE SHEET

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**A comparative study on
CAPITAL STRUCTURE MANGEMENT
Of
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and found the thesis to be the original work of student and written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirement for
Master Degree in Business Studies (M.B.S)

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Date : / /2066 _____

DECLARATION

I hereby declare that the work reported in this thesis entitled “ A Comparative Study on CAPITAL STRUCTURE MANGEMENT of Joint Venture Banks In Nepal”, Submitted to office of the Dean, Faculty of Management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirement of Master of Business Studies (M.B.S) under the guidance and supervision of Lectureer Raju Kafle, Kankai Adarsha Awasiya Campus.

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Pawan Paudel
Kathmandu,

TABLE OF CONTENTS

Recommendation
Viva-voce sheet
Declaration
Acknowledgement
Table of Contents
List of Table
List of Figures

	Page No.
Chapter –I	
Introduction	
1.1 General Background of study	1
1.1.1 History of Commercial Bank in Nepal	4
1.2 Statement of Problems	11
1.3 Objectives of the study	12
1.4 Significance of the Study	13
1.5 Limitation of the Study	14
Chapter –II	
REVIEW OF LITERATURE	
2.1 Introduction	16
2.1.1 Concept of Capital Structure	16
2.1.2 Concept of Cost of Capital	19
2.1.3 Concept of Financial Leverage	25
2.1.4 Characteristics of an Appropriate Structure	28
2.1.5 Determinants of the capital Structure	29
2.1.6 Assumption of Theory of Capital Structure	33
2.1.7 Theory of Capital Structure	35
2.1.7.1 Net Income Approach	38
2.1.7.3 Traditional Approach	41
2.1.7.4 Modigliani-Miller (MM) Approach	44
2.1.8 Modern Theory of Capital Structure	48
2.1.8.1 Pecking Order Theory	49
2.1.8.2 Agency Cost Theory	50
CHAPTER-III	
RESEARH METHODOLOGY	
3.1 Introduction	53
3.1.1 Research Design	54
3.1.2 Population and Sample of the Study	56
3.1.2.1 Population	56
3.1.2.2 Sample	57
3.1.3 Sources of Data	57

3.1.4 Data Collection Technique	58
3.1.5 Data Analysis Tools	58
3.1.5.1 Ratio Analysis Tools	59
3.1.5.2 Leverage Solvency Ratio	60
3.1.5.3 Profitability	63
3.1.5.4 EBIT-EPS Analysis	65
3.1.5.3 Statistical Tools	68
3.1.5.3.1 Arithmetic Mean	69
3.1.5.3.2 Standard Deviation	69
3.1.5.3.3 Co-efficient of Variation	70
3.1.5.3.4 Correlation Analysis	70
3.1.5.3.5 Co-efficient of Determination	73
3.1.5.3.6 Testing of Hypothesis	74
3.1.5.4 Trend Analysis	75
CHAPTER-IV	
PRESENTATION AND ANALYSIS OF DATA	
4.1 Financial Analysis	80
4.1.1 Analysis of Debt to Equity Ratio of Sample Banks	81
4.1.2 Analysis of Debt Ratio	82
4.1.3 Analysis of Debt to Total Capital Ratio	84
4.1.4 Analysis of Return on Capital Employed Ratio	85
4.1.5 Analysis of Return of Assets Ratio	87
4.1.6 Analysis of Return on Shareholders' equity	89
4.1.7 Analysis of Interest Coverage Ratio	91
4.1.8 Analysis of Price Earnings Ratio	93
4.1.9 Analysis of Dividend Payout Ratio	95
4.1.10 Analysis of Earning per Share	96
4.1.11 Leverage Ratio	98
4.1.12 Degree of Financial Leverage	99
4.2 Coefficient of Correlation Leverage	101
4.2.1 Analysis of relationship Between TA & Net Profit	101
4.2.2 Analysis of relationship between cost of service & Net Profit	103
4.2.3 Analysis of the relationship between total debt & shareholders' equity	104
4.2.4 Analysis of Relationship between Total Debt & Interest Expenses	105
4.2.5 Shareholders Equity and Earning per share	106
4.3 Trend Analysis	107
4.3.1 Analysis of EPS Trend	107
4.3.2 Analysis of the Trend of Loan and Advances	109
4.3.3 Analysis of the Deposit and other A/c	110
4.3.4 Analysis of the Shareholders' reserve	111
4.3.5 Analysis of Trend of Total operating Income	112
4.3.6 Analysis of Expenditure Trend	114
4.4 Major Findings of the Study	115
CHAPTER V	
SUMMARY CONCLUSION AND RECOMMENDATION	

5.1 Summary	120
5.2 Conclusion	123
5.3 Recommendation	124

Bibliography

Appendix

LIST OF TABLES

Table No.	Page No.
4.1 Debt to Equity Ratio	81
4.2 Debt Ratio	82
4.3 Debt to Total Capital Ratio	84
4.4 Return on Capital Employed Ratio	86
4.5 Return on Assets Ratio	88
4.6 Return on Shareholder Equity	89
4.7 Interest Coverage Ratio	91
4.8 Price Earning Ratio	93
4.9 Dividend Payout Ratio	95
4.10 Earning Per Share	96
4.11 Degree of Financial Leverage	100
4.12 Correlation Coefficient between TA & NPAT	102
4.13 Correlation between cost of service & Net Profit	103
4.14 Correlation coefficient between TA & Shareholders' Equity	104
4.15 Correlation coefficient between Total Debt and Interest Expenses	105
4.16 Correlation coefficient between ROSE & EPS	106
4.17 Total earning per share	107
4.18 Trend Value of Loan and Advance to the other commercial Banks	109
4.19 Trend Value of Total Deposit	110
4.20 Trend Value of Shareholder Reserve	111
4.21 Trend Value of Operating Income	112
4.22 Trend Value of Total Expenditure	114

LIST OF FIGURES

Figure No.	Page No.
1.1 Share Subscription of SCBL	7
1.2 Share Subscription of HBL	9
1.3 Share Subscription of EBL	11
4.1 Debt to Equity Ratio	81
4.2 Debt Ratio	83
4.3 Debt to Total Capital Ratio	85
4.4 Return on Capital Employed Ratio	86
4.5 Return on Assets Ratio	88
4.6 Return on Shareholder Equity	90
4.7 Interest Coverage Ratio	91
4.8 Price Earning Ratio	94
4.9 Dividend Payout Ratio	95
4.10 Earning Per Share	97
4.11 Degree of Financial Leverage Ratio	100
4.12 Trend Value of EPS	108
4.13 Trend Value of Loan and Advances	109
4.14 Trend Value of Total deposit	111
4.15 Trend Value of Shareholder Reserve	112
4.16 Trend Value of Operating Income	113
4.17 Trend Value of Total Expenditure	114

CHAPTER -1

1.1 General background of study

Nepal is a landlocked country located between two gigantic countries. China in the north and India in the east, west and south. Nepal is a small country with an area of 1, 47,181 sq. km and is ranked as a least developing country with per capita income of US \$ 470.

Nepal is a developing country in the world. So, the government of Nepal has been focusing on the economic liberalization policy to grow its national economy. The Nepalese government has launched many plans & programs for its economic development. But lack of proper capital as well as misuse of capital mobilization has been the main cause to be undeveloped of the economy. Recently, the Nepalese government has adopted the path of economic development through privatization and liberalization policy. But on the other hand, the political situation of the country is not favorable for investors and entrepreneurs. Policies have been well designed but unfortunately, they have not been implemented.

Industrialization is the backbone of the developing country like Nepal for economic development. It plays a vital role, which is very essential to develop overall aspects of the country. Without industrial and business enterprises, economic development of the nation is not possible.

Finance is an important thing to operate the business properly. In the absence of the financial resource, the establishment and operation of a business is impossible. In this regard, financial management is concerned with the planning and controlling of the firm's financial resources. Traditionally, financial management is the science of money and concerns only with raising of funds but in modern concept, it is not only that, rather it is the science of making financial decision. Under this, a financial manager generally has to

take important financial decision such as financial decision, investment decision, and dividend decision.

Before the establishment and operation of any business organization, it requires a large amount of financing resources, where financial management plays vital role for any business organization. Banks are playing a vital role in providing finance for business.

At present banking activities have developed too much. Basically, the term 'BANK' refers to commercial bank. In short a bank is an institution which deals with money by accepting various types of deposit, disbursing loan and rendering other financial services.

Bank is a financial institution, which deals on money. It collects money from different sector, which are idle and scattered in our surroundings. It issues these deposits as a loan to those who need it. These depositors can be individual or institutions. Duration of deposit depends upon the mutual agreement between bank and customer (or deposit) similarly borrower of money (whom bank lends money as loan) can be individual as well as institution. Terms and conditions of depositing money and lending money depend on various factor like duration volume or amount purpose ect. For example bank provides high rate interest on long firm deposit. It allows some interest on deposits and charges some interest on loan. Interest on loan is comparatively highness than on deposits. The difference in interest on loan is comparatively highness than on deposits. The difference in interest of deposits and loan is called spread rate and this is the main sources of earning for bank.

Banking plays the significant role to the development of the economy. It provides an effective payment and credit system, which facilitates the channel of fund from the surplus spending units (savers) to the deficit spending units (investors) in the economy.

Banking plays an important role in the economic development of the country. Economic development consists of trade, commerce, industry ect. To invest on those sectors and investors need money in large scale this can't be managed by single person. So to finance in a large scale organizations investors approach bank for long term finance and short term finance. Bank is the financial intermediary which links those who save money and those who need it. Generally saving is made in small scale as well as it is scattered. Bank collects such savings. Such savings are needed by investors like business firm ect, who themselves can't approach to the savers, so due to convenience they approach banks who has already collected the savings thus bank modifies this resource by granting as a loan to different investor which would be idle in absence of bank.

These are various banking functions and no bank can discharge all of these functions. So they specializes on only some functions such functions can be dealing on foreign exchange, financial on industry, financing commerce which required short term loan financing, agriculture sector ect. On the basis of the specialization bank can be classified as agriculture bank concentrates its function on the development of agriculture sector. It provides loan and other services for its development. Similarly, industrial bank is related with industrial field. Generally, this type of bank advances which are repayable on the written demands of depositors. Commercial bank generally grants credit for short duration. Besides granting credit, bank provides other type of services too takes some charges. It is experienced that not all deposits are withdrew at the same time.

Summarizing the above banks are those financial institutions that offers the widest range of financial services. The multiplicity of bank services and functions has led to banks being labeled 'financial supermarket' or it could be called as a full service financial institutions.

As mentioned earlier there are different types of bank however, most common type of them is commercial bank.

1.1.1 History of commercial Bank in Nepal

The principal types of banking are commercial banking and central banking. A commercial bank is a dealer in money and substitutes of money such as cheques and bills of exchanges. The banker also provides a variety of financial services. The basis of banking business is borrowing from individuals, firms and occasionally from governments at lower interest rate i.e. it receives deposits from them. It makes profit by lending at higher rate or by charging commission for service rendered.

The basis task of financial institutions is to mobilize the saving of the community and ensure efficient allocation of these saving to high yielding investment. Projects to offer attractive and secured returns to different sector of the economy according to plans priorities of the country, on the other commercial bank plays an important role in affairs of the economy in various ways. The operation of the commercial bank records the economic plus of the economy. The size and composition of their transaction is the mirror of the economic happening of the country. They are as essential instrument accelerated growth in a developing economy. In fact banks are the nerve centre of the economy and the barometer of economy prosperity. By mobilization community saving and diverting them into productive channel. Commercial bank expands the tempo and appreciates the value of the aggregate economic activity in the economy.

The historical background of modern banking in Nepal is very new one. As in other countries goldsmiths and landlords used to carry out banking activities. During the tenure of the then prime minister Ranodip Shah "Tejarath Adda" first step towards the institutional development of banking in Nepal, was established in 1933 B.S. Tejarath Adda didn't accept deposits, the foremost task

of saving in the part of people was lacking and they couldn't perform the task of mobilizing idle resources in productive sector.

Bank in the true sense started with the inception of Nepal bank limited (NBL) on the 13th karkti 1994 B.S. right from inception, it carried out function of a commercial bank. The authorized capital was contributed by government 51% and remaining by public 49%. Nepal bank limited was the first commercial bank of Nepal. NBL had a herculean responsibility of attracting people towards banking sector from predominant shahi Mahajan's transaction and of introducing other bank services as well as later on 2013 B.S. having felt the need of development of bank sector, to help the government to formulate monetary policies, Nepal Rastra Bank (NRB) was set up in 2013 B.S. as the form of central bank, which was significant plus dimension in the development of banking sector. The development of the country is possible only when competitive banking services reaches hooks and corner of the country. That's way develop and promote a scientific commercial, industrial, agricultural system and capital market activities.

NBL alone was not able to extend adequate serviced in the national economy. Thus Rastriya Banijya Bank (RBB) was set up in 2022 B.S. as fully government owned commercial bank. In addition to this, Nepal Industrial Development corporation (NIDC 1959 A.D.), Agriculture Development Bank (ADB 1967A.D.), and security Exchange Center (SEC) were also established, however, with the coming up of these financial institution, the banking and financial activities spread to both urban and rural areas.

In this way, the history of banking system is not so old. An organized banking system is relatively a recent phenomenon. The establishment of "Nepal Bank Limited" a commercial bank in 1994 B.S. started the process. After a long time in order to uplift the national economy, government of Nepal permitted to establish joint venture bank under commercial Bank Act 2013. So far 17

commercial banks have been operating to facilitate more and more banking services. For the purpose of the study, the research includes three joint venture banks, namely Standard Chartered Bank Ltd. Is the oldest one among these three. A brief description of three sampled banks is follows:

Standard chartered Bank Ltd. (SCBL)

Standard chartered Bank limited (Nepal) has been in operation in Nepal since 1987 when it was initially registered as a joint venture operation under company Act 1964. Today, the Bank is an integral part of Standard Chartered group who has 75% ownership on the company with 25% shares by the Nepalese public.

An integral part of the only international banking group currently operating in Nepal, the bank ltd. enjoys an impeccable reputation of a leading financial institution in the country. With 11 points of representation (31 branches) and 9 ATMs across the kingdom and with over 300 local staffs. SCBL is in apposition to service its customers through a large domestic network. In addition to which global network of standard Chartered Group gives the bank unqiue opportunity to provide truly international banking in Nepal.

SCBL offers a full range of Banking products and services in wholesale and consumer banking catering to wide range of customers from individuals to mid-market, local corporate to multi-nationals and larger public sector companies as well as Embassies, AID agencies, Airlines, Hotels and Government corporations. The bank has been the pioneer in introducing "Customer Focused" products and services in the country and aspires to continue to be a leader in introducing new products and highest level of service

delivery. It is the first bank in Nepal that has implemented the Anti-money Laundering Policy and applied the "know your customer" procedure on all the customer accounts.

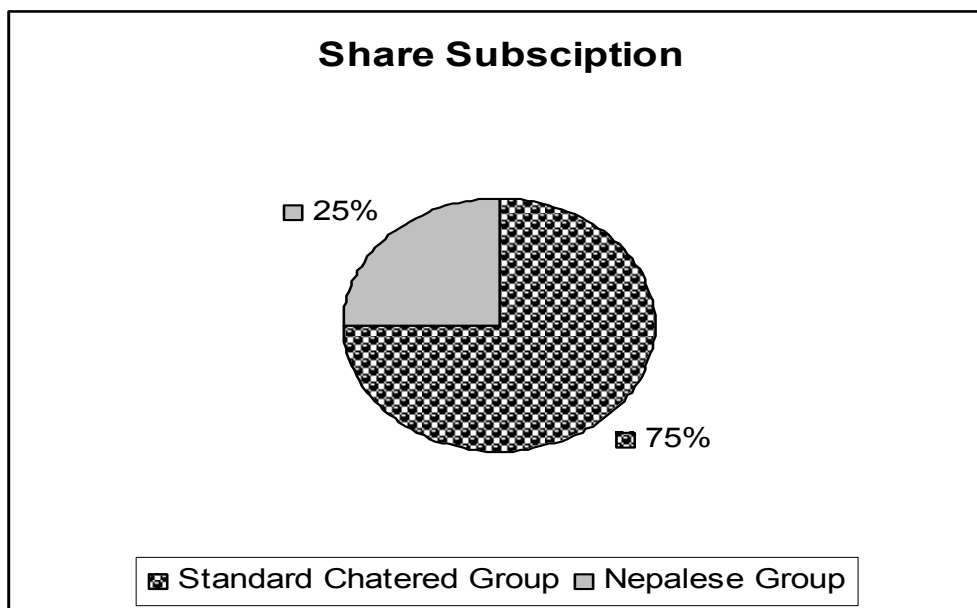
It also concentrates on project that assist children, particularly, in the areas of health education and it has taken initiatives to benefit the community. Two major initiatives in the areas of health "Living with HIV" and "seeing is believing" have been undertaken by the bank since 2003.

Share Subscription:

Share subscription of SCBL is divided into two parts. 75% of ownership owner by standard Group and remaining 25% owned by Nepalese public. The share subscription of SCBL can be seen in the graphical form as follows

The Share Structure of SCBL is as follows:

Authorized Capital	1000,000,000
Issued Capital	5000,000,00
Paid-UP Capital	374640400
Par value of Share	100
No. of Shareholders	5037
NO. of Branches	7
Incorporation Year	2042 B.S. (1985A.D)
Listing Date in NEPSE	03-21-2045 B.S



Himalayan Bank Ltd. (HBL)

Himalayan Bank Ltd is a joint venture bank with Habib Bank of Pakistan was established in 1992 under the company Act 1994. This is the first joint venture bank managed by Nepalese chief executive. The operation of the bank started from 1993 February. It is the first commercial bank of Nepal whose maximum share are held by the Nepalese private sector. Besides commercial banking services, the bank also offers industrial and merchant banking services.

Himalayan Bank Ltd. has a total network of 21 branches across the country. There are six branches in Kathmandu valley at the following locations: Thamel, New Road, Maharjgunj, Pulchowk (patan), Suryabinayak (moved from Nagarkot) and a card center in Pulchowk. In addition, the bank also has ten branches outside Kathmandu valley in Banepa, Tandi, Bharatpur, Birgunj, Hetauda, Bhairahawa, Biratnagar, Pokhara, Dharan and Butwal. The bank is aggressively opening new branches at different parts of the kingdom to serve its customer better.

The main objective of bank is to provide modern banking facilities like Tele Banking to the businessmen, industrialist and other professionals and to provide loan on agriculture commerce and industrial sectors. Currently, this bank is operating premium saving account (PSA) scheme with attractive prizes and special facilities, Credit card facility, and branch banking facilities, ATM, facilities ect. HBL is always committed to providing a quality services with a personal touch, to its valued customers, all customers are regarded as valued client and treated with utmost courtesy. The bank, whenever possible, offers tailored facilities to its clients to meet unique needs and requirements of different clients. To further extend the reliable and efficient services to its

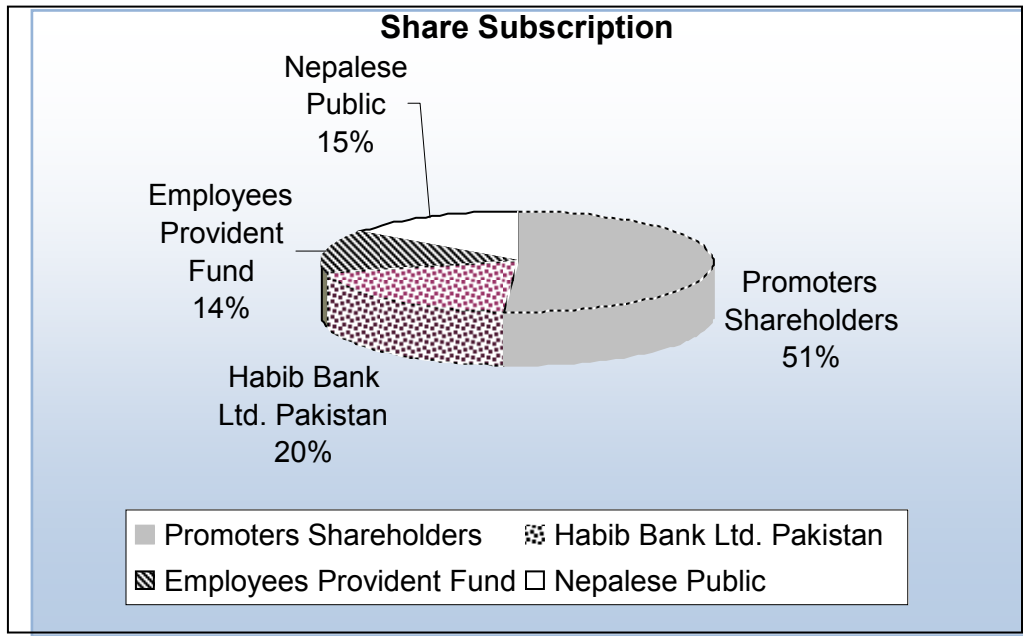
valued customers, HBL has adopted the latest banking technology and runs the world class banking software Globus on IBM platform. This has not only helped to constantly improve its service level but has also prepared the bank for future adaptation to new technology. HBL is committed to be a bank which has "the power to lead." So the main objective of HBL is to become "the bank of first choice".

Share subscription

Share subscription of the HBL is divided into four parts. Promoter's shareholder has taken 51%, Habib Bank Ltd. Pakistan has taken 20%, financial institution (Employees Provident Fund) has take 14%, and the remaining 15% of share is taken by Nepalese public shareholders. The graphical representation of the share subscription could be seen in the following figure.

The Share Structure of HBL is as Follows

Authorized Capital	1000,000,000
Issued Capital	650,000,000
Paid-UP Capital	536,250,000
Par value of Share	100
No. of Shareholders	7210
NO. of Branches	31
Incorporation Year	2048 B.S. (1992A.D)
Listing Date in NEPSE	03-21-2050 B.S(1993 A.D)



Everest Bank Limited

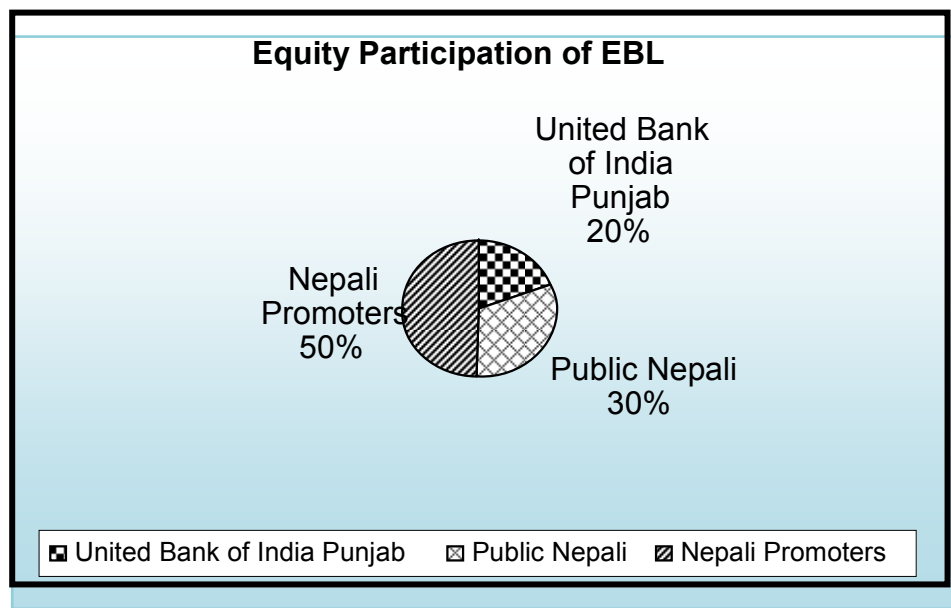
Everest Bank Ltd is a joint venture with Punjab national Bank, the largest public sector Bank of India in 1997. The bank started its operations in 1994. It established network of 16 Branches through out the country. The head office of EBL is in Lazimpat, Kathamandu. Everest Bank provides many types of facilities to the public sector. It has come in public sector with this transaction and slogans. Housing loan creating a base for life, Education loan helping you to learn caring for your growth, Home equity loan EBL plus, loan against mortgage re-investing your investment, professional loan more up in life, EBL property plus to get instant encashment up to 80% of future lease rentals, vehicle loan easy hassle free financing. It has expanded another facility to the public people that is EBL Debit Card. This is real cash in the form of card, designated to meet immediate cash demand anytime, anywhere. To provide more facility, the bank is operating Any Where Branch Banking System (ABBS), 365 days banking services, extended banking facilities and ATM facilities and has been providing need based loans without hassles and delays.

Share Subscription

Share Subscription of EBL has been divide into three parts, 50% of total shares have been taken by Nepali promoters, 30% has been held by public Nepali and the remaining 20% have been taken by United Bank of India Punjab.

The Share Structure of EBL is as Follows

Authorized Capital	750,000,000
Issued Capital	491,654,400
Paid-UP Capital	491,654,400
Par value of Share	100
No. of Shareholders	5076
NO. of Branches	16
Incorporation Year	2041B.S. (1984A.D)
Listing Date in NEPSE	08-09-2042 B.S (1986 A.D)



1.2 Statement of Problem:-

Although various joint venture foreign commercial banks are operating in Nepal after the HMG/N adopted the open, liberal and market oriented economic

policy, the financial sector hasn't been responsive enough from them to meet the growing resources need to the economy as expected before. Why is so and what are the problems? Is a very important question. To answer the question an analysis of their present study, the capital structure analysis of joint venture banks in Nepal with special reference to standard chartered Bank Ltd (SCBL), Himalayan Bank Ltd (HBL) and Everest Bank Ltd (EBL) is the main question.

In fact a comprehensive capital structure analysis is a mirror of strength and weakness of a bank. A strong joint venture bank contributed to the national economy and also attracts further foreign investment in this sector. It may be an exemplary lesson to existing as well as a new comer JVBS. Therefore capital structure should be fully examined to find out whether these banks are economically and financially sound or not.

1.3 Objective of the study

The main objectives of this study are to analyze and compare the capital structure management of three joint venture banks. To support these main objectives, other some objective of this study can be established as follows.

- To evaluate the position of capital structure management of three joint venture banks.
- To examine the relationship between total debt & owner capital
- To find out the earning per share.
- To show the relation between Return on shareholder's Equity (ROSE & EPS)
- To provided the proper guidelines to the potential investors.

1.4 Significance of the Study

Development of banking sector is the fundamental framework of economic development for a country. Which generates employment

opportunities as well as it makes the nation economically strong. But 6 most of the business organizations have been operating without sound capital structure. Only the establishment of any business organization is not important thing however operating the company with effectively and efficiently is essential. For this capital structure management should be sound in the company, which maximizes the value of the firm and minimizes the overall cost of capital. By analyzing the capital structure of a company it helps to find out strength & weakness of the company and helps to drive the firm into right track. There are different stakeholders in the company having their own interest and desires, where the main responsibility of affirm is to keep them satisfactory. It is possible only through the sound capital structure in the company. The importance of this study is to find out he factors related to capital structure management and helps to financial manager as a guideline. This study also has importance for those who are interested on investment as well as owners, creditors and shareholders to make their good attitude.

Similarly this study will helps to analyze the past success (or failure) aspects and may be useful to create sound capital structure. In overall, the study will be a guideline to improve the capital structure position that the company's EPS may increases as well as this study helps to provide available information and its weaknesses to the shareholders. It helps to measure the firm's ability or efficiency to raise funds in future. The finding of this undertaking is expected to be useful to the policy maker of these companies and other interested researcher and the students.

1.5 Limitations of the study

A research study is not a easy work which requires deep and vast study about related problem to investigate the solution. Various limitation or

assumptions should be cared in the mind by a researcher for proper solution. This Study can't cover all aspects of three joint venture banks due to certain time period

Under this study, the major limitations can be described as follows.

- This study covers only the financial aspects.
- The data used in this study are rounding figured to avoid the errors
- The study is based on secondary data of website of each bank which is assumed reliable and fact.
- The study used five year data of each bank which may not sufficient for the study of this topic.
- In this fiscal year 2003/2004 is assumed as the base year.
- The study is meant for academic purpose.

1.6 Organization of the study

The comparative study of capital structure management of three joint venture banks has been divide3d mainly into five chapters which are as follows.

CHAPTER -I INTRODUCTION

This chapter includes background, history of banking in Nepal, statement of the problem, objectives of the study, Significance of the study and limitation of the study, where related subject matters have been included.

CHAPTER-II (REVIEW OF LITERATURE)

In this chapter, related subject matter and findings have been reviewed, so far as possible. In this study, concept of capital structure, financial leverage, cost of capital, theory of capital structure, optimal capital structure ect. has been reviewed.

CHAPTER-III (RESEARCH METHODOLOGY)

In this chapter, Research design and methodology has been discussed, Basically this chapter includes sources of data, data collection techniques, different data analysis tools that financial and statistical, such as financial tools and various ratio analysis, EBIT-EPS analysis ect. And so on in statistical tools. Coefficient of correlation, testing of hypothesis ect, has been discussed. Similarly sample and population of the study have been included.

CHAPTER-IV (DATA PRESENTATION AND ANALYSIS)

This chapter deals the actual study of the available data from three joint venture banks by the help of different tools and techniques.

1. Ratio analysis
2. Correlation analysis
3. EBIT-EPS analysis

CHAPTER-V(SUMMARY, CONCLUSION & RECOMMENDATION)

In this chapter, summary, conclusion of finding of three joint venture banks have been presented and the recommendation (or for optimal capital structure of these joint venture banks) to the three joint venture banks have been given from the study.

At last the bibliography and necessary appendices are included.



CHAPTER-II

REVIEW OF LITERATURE

2.1 Introduction

The previous studies are foundation of the present study. there has to be continuity in research where such continuity in research is ensured by linking the present study with the past study .

In this chapter, some basic and useful related literatures of capital structure management are included. In other words, this chapter includes the theories, the empirical evidences of capital structure management. Such as government publication, articles, review of journal, theses, dissertations and other business reports are involved in capital structure management. The main purpose of literature review is to find in out that what research is to find in out that what research studies have been conducted in one's chosen field of study, and what remains to be done, and which provides the foundation for developing comprehensive theoretical framework and from which hypotheses can be developed for testing.

2.1.1 Concept of capital structure

Simply, it has two words, i.e. capital and structure, where the company defines capital as the funds collected from different sectors for mobilization of resource, While, the term structure is the management of capital as well as other components which can be used for production that related products. In other words, structure is the combination of different components. So, capital

structure is the combination of different components as long-term debt, preferred stock and common stock or equity capital.

Sometimes, the capital structure is known as financial plan that refers to the composition of long-term source of funds such as debentures, long-term debt, preference share capital and equity share capital including g reserve and surpluses (i.e. retained earnings). Some companies don't plan/design their capital structure as a result; such companies are bearing so losses. The capital structure decision can directly affect the value of firm either by changing the expected earnings or the cost of capital or by both. The optimum capital structure is obtained when the market value per share is maximum or the average cost of capital is minimum¹

"Financial structure is the mix of all items that appear on the right hand of the company's balance sheet. Capital structure is the mix of the long-term sources of funds used by the firm. The relationship between financial and capital structure can be expressed in equation form as; financial structure-current liabilities=capital structure. Financial structure design requires answer to the following two questions; first what should be the maturity composition of the firm's sources of funds & how should a firm best divide its total funds sources between short and long-term components? Second, in what properties relative to the total should the various forms of permanent financing be utilized?"²

Capital structure design is a significant management decision which influences the shareholder's return and risk. Consequently, the market value of

¹ Pandey I.M., (1986), Financial Management, Vikas Publishing house (P) Ltd., India, P.258

² Keown, Petty, Scott & Martin, (1998), Foundation of Finance, 2nd Edition Prentice Hall of International, Inc. P.372

the share may be affected by the capital structure decision. Subsequently, whenever funds have to be raised to finance investments a capital structure decision is involved.

"A firm's capital structure is a the relation between the debt & equity securities that make up the firm's financing of its assets. A firm with no debt is said to have an all-equity capital structure. Since most firms have capital structure with debt and equity elements, the financial manger is highly concerned with the effects of borrowing. If a firm is making money on its borrowing (has favorable financial leverage), the shareholders are realizing higher earnings per share than in the absence of debt".³

"Capital structure is composition of debt and equity securities that comprise a firms financing of its assets. Both debt & equity securities are used in most large corporations. The choice of the amount of debt and equity is made after a comparison of certain characteristics of each king of security of internal factors related to firm's operations, and of external factors that can affect the firm." ⁴

"A great deal of controversy has developed over whether the capital structure of a firm, as determined by its financing decision, affects its overall value. Traditionalists argue that the firm can lower its cost of capital and increase market value per share by the judicious use of leverage. Modigliani & Miler, on the other hand, argue that in the absence of taxes and other market imperfections, the total value of the firm and its cost of capital are independent

³ Hampton John J., (1998), Financial Decision Making, Concepts, Problems & Cases, Prentice Hall of India (P) Ltd. P.166

⁴ Ibid., P.33

of capital structure. This position is based on the motion that there is a conservation of investment value."⁵

"Financial structure refers to the way the firm's assets are financed. Financial structure is represented by the entire right-hand side of the balance sheet. It includes short-term debt and long-term debt as well as shareholders equity. Capital structure or the capitalization of the firms is the permanent⁵ financing represented by the long-term debt, preferred stock and shareholder's equity. Thus, a firm's capital structure is only part of its financial structure."⁶

Ownership ratios assist the stockholder in analyzing the present and future investment in accompany. Under this ration generally, three major groupings of ratios can be analyzed they are, capital structure ratios, earning ratios, and dividend ratios. Where a firm's capital structure is the relation of debt to equity as sources of the firm's assets. The two ratios that reflect capital structure are the debt-ratio and the debt-assets ratio.

The use of the fixed charges sources of funds such as debt and preference capital along with the owners' equity in the capital structure is described as financial leverage or trading on equity.

2.1.2: Concept of cost of capital:

"The term cost of capital is the rate of return required on a capital investment. It is a synonymous with the term-required return. The weighted average cost of capital is a technique that measures required return in terms of the individual components of the firm's capital structure. The cost of each debt component and return on each equity component are separately identified with a

⁵ Van Horne James C., (2000), Financial Management & Policy, Prentice Hall of India (P) Ltd. India 11th edition, P.276

⁶ Western J. Fred & Copeland Thomas E., (1998), Managerial Finance, The Dryden Press, 9th edition, P. 556.

weighted value. By adding together each weighted components, we can determine an overall required return; that is, a sufficient return to cover interest payments on the firm's debt and dividends for preferred shareholders and still to provide an adequate return to common shareholders for the risk that they accept." ⁷

"A firm's cost of capital serves as the linkage between the firm's financing decisions and its investment decisions. The cost of capital becomes the hurdle rate that must be achieved by an investment before it will increase shareholder wealth. The term cost of capital is frequently used interchangeably with the firm's required rate of return, the hurdle rate that must be achieved by an investment before it will increase shareholder wealth. The term cost of capital is frequently used interchangeably with the firm's required rate of return, the hurdle rate for new investments, the discount rate for evaluating new investments, and the firm's opportunity cost of funds. Regardless of the term used, the basic concept is the same. The cost of capital is that rate which must be earned on an investment project if the project is to increase the value of the common stockholders investment in the project." ⁸

"The weighted average cost of capital is the average cost of each of the sources of capital used by a firm to finance a project where, the weight reflects the proportion of financing raised from each source. Consequently, the weighted average cost of capital is the minimum rate of return that firm must earn on its investments so that is can compensate both its creditors and stockholders with their individual required rates of return." ⁹

⁷ Hampton John J., op. cit., P.346.

⁸ Keown, Petty, Scott & Martin, op. cit., p. 328

⁹ Ibid., P. 329.

The cost equity capital is the minimum rate of return that a company must earn on the equity-financed portion of its investments in order to leave unchanged the market price of its stock. This cost can be estimated using a market model that is a capital assets pricing model (CAPM). The cost of equity capital is defined as the market rate of discount that equates the present value of all expected future dividends per share with the current market price of the stock. This cost is found by solving equation for K_e as follows:

$$P_0 = \frac{D_1}{1 + K_e} + \frac{D_2}{(1 + K_e)^2} + \cdots \cdots \cdots \frac{D_\infty}{(1 + K_e)^\infty}$$

$$= \sum_{t=1}^{\infty} \frac{D_t}{(1 + K_e)^t}$$

"The cost of capital is the minimum rate of return on the investment projects to keep the market value per share unchanged. Thus, the costs of capital theory and valuation theory are intimately related. The wealth maximization objective requires that the shareholder's funds rose by issuing shares or by retaining net earnings, should be so utilized that the firm earns a return on them equal to the return expected by the shareholders. If the firm fails to earn the expected rate, the market value of share would be fall, and the shareholder's overall wealth will be reduced. Similarly, the fund rose by issuing debt and preference capital should be used only when they do not reduce the market value per share. The market value per share will remain unaffected by debt or preference issue of the firm earns, at least, a rate of return on the project financed by these funds equal to the cost of raising them. Thus, the cost of capital is simply the rate of return the funds used should produce to justify their use within the firm in the light of the wealth maximization objective. Here, the cost of capital has defined in general terms. However, there exist various concept of the cost of capital, all of which are not relevant for all purpose. Thus

for a proper understanding of the application of the cost of capital in financial decision making, its various concept should be discussed as below."¹⁰

Future cost and Historical Cost:- The relevant costs are future costs. It is the future cost of capital, which is significant in financial decision-making. In designing the capital structure, the firm aims at minimizing the future cost of capital, not the costs are provide an evaluation of the past performance when compared with standard, or predetermined costs.

Specific and combined Cost:- The cost of each component of capital (e.g. common shares, debt, preference shares ect.) is known as the component of specific cost of capital (of the specified component). The concept of the cost of capital used in this sense implies that, in order to accept or reject the investment projects, their probability should be evaluated on different cost bases, depending on the specific sources of funds used to finance particular projects. The combined cost of capital is inclusive cost of capital from all sources; debt, equity and preference capital. Thus, it is the overall mix of financing overtime, which is important in valuing firm as an ongoing overall entity.

Average cost of marginal cost:- It is the weighted average of the costs of each components of funds employed by the firm, the weight being the proportion of each components in the capital structure. The marginal cost of capital is the average cost of new or incremental funds raised by the firm.

Explicit or Implicit cost: - The explicit cost of any sources of capital may be defined as the discount rate that equates the present value of the cash inflows that are incremental to the taking of the financing opportunity with present value of its incremental cash outflows. The implicit cost may be defined as the rate of return associated with the best investment opportunity for the firm and

¹⁰ Pandey I.M., op, cit., P.164-81

its shareholders that will be forgone if the project presently under consideration by the firm were accepted.

In financing decision-making, the term cost of capital should be used in the composite sense. The composite or overall cost of capital is the weighted average of the cost of various sources of funds in the capital structure. It should be remembered that it is the weighted average concept, not the simple average, which is relevant in calculating the overall cost of capital. The simple average cost of capital is not appropriate to use because the firms hardly use various sources of funds equally in the capital structure.

The weighted average required return could be expressed by the formula as below¹¹

$$E_{(rtn)req} = (\%D_{mkt})k_i(1-tr) + (\%PS_{mkt})K_{ps} + (\%CS_{mkt})k_e$$

Where as,

$E_{(rtn)req}$ = Overall required return for the firm

$\%D_{mkt}$ = Percentage in the capital structure of debt

k_i = Before tax cost of debt

$1-tr$ = 1 minus the firm's corporate tax rate

$\%PS_{mkt}$ = Percentage in the capital structure of preferred stock

K_{ps} = required return on preferred stock

$\%CS_{mkt}$ = Percentage in the capital structure of common stock

k_e = required return on common stock

Specific costs of capital for various sources of finance: The specific costs of capital for various sources of finance can be discussed as below.

Cost of debt:- "To drive the explicit cost of debt, we solve for the discount rate, k_i , that equates the net proceed of the debt issue with the present value of

¹¹ Hampton John J., op. cit., P.346

interest plus principal payments. Then we adjust the explicit cost obtained for the tax effect. After-tax cost of debt can be calculated by." ¹²

$$k_i = K(1-t)$$

Where as, k denoted the interest rate of return or yield, t denotes the marginal tax rate and k_i is the cost of debt (after tax). Because interest charges are tax deductible, the after tax cost of debt is substantially less than the before tax cost.

Cost of preferred stock:- The cost of preferred stock is a function of its stated dividend. This dividend is not a contractual obligation of the firm but is payable at the discretion of the board of directors. Consequently, unlike debt, it does not create risk of legal bankruptcy. To holders of common stock, however, preferred stock is a security interest that takes priority over theirs. Most corporations that issue preferred stock intend to pay the stated dividend. As preferred stock has no maturity date, and its cost may be represented as; ¹³

$$K_p = \frac{D}{I_0}$$

Where as, D represent the stated annual dividend, I_0 is the proceeds of the preferred stock issue. Cost of preferred stock is not adjusted for taxes, because the preferred stock dividend is paid after taxes. Therefore, the explicit cost of preferred stock usually is greater than that for debt.

Cost of retaining Earnings:- The companies are not required to pay any dividends on retained earnings. Thus it is sometimes observed that this source of finance is cost free. But retained earnings involve an opportunity cost. The

¹² Van Horne James C., op.cit., P.208

¹³ Ibid., P.209

opportunity cost of retained earnings if the dividend forgone by the shareholders. The cost of retained earning is measured by;¹⁴

$$K_r = \frac{D}{I_0} + g$$

Where as, ' K_r ' is the cost of retained earnings. Thus, the cost of retained earnings is the return expected (i.e. dividend yield plus growth in dividends) by the common shareholders on their investment. ' P_0 ' is the market price of the share, ' g ' is the growth rate and ' D ' represents the annual dividend.

In the absence of personal taxation and brokerage costs the flotation costs of the new issue $k_e = k_r$. This implies that if dividends would have been paid to the shareholders, they could have invested these dividends in the firms of similar risk and earned, at least, a rate of return equal to k_e . Thus, the k_e is the opportunity cost of retained earnings when (i) the shareholders do not pay any tax on dividends, and (ii) incur no brokerage costs when investing the dividends received. However, even if these assumptions hold, the cost of external equity will be higher than the cost of retained earnings, because the later does not involve any flotation costs. In practice, these assumptions do not hold.

2.1.3: Concept of Financial Leverage:

A company can finance its investments by a variety of sources, such as debt, preference share capital and common stock, including reserve and surpluses. The rate of interest on debt is fixed irrespective of the company's rate of return on assets. The company has a legal binding to pay interest on debt. The rate of preference dividend is also fixed, but the preference dividends are paid when the company earns profits. The common shareholders are entitled to the residual income, i.e. the earnings after interest and taxes and preference

¹⁴ Pandey I.M., op cit, P.177

dividends belong to them, where the rate of equity dividends is not fixed and depends on the dividend policy of the company. The use of the fixed charges sources of funds, such as, debt, preference share capital along with their owners' equity in the capital structure is described as financial leverage.

"The financing or capital structure decision is a significant managerial decision as it influences the shareholders return and risk. Consequently, the market value of the share is affected by the capital structure decision. The company will have to plan its capital structure initially at the time of its promotion and subsequently, whenever funds have to be raised to finance investments a capital structure decision is involved." ¹⁵

Effect of financial leverage on the shareholders' earnings:- The primary motive of a company in using financial leverage is to magnify the shareholder earnings under favorable economic conditions. The rate of financial leverage in magnifying the earnings of the shareholders is based on the assumption that the fixed charges funds can be obtained at a cost lower than the company's rate of return on its assets. Thus, when the difference between the earnings generated by assets financed by the fixed charges funds and the cost of these funds is distributed to the shareholders, they get additional earnings without increasing their own investments. Consequently, the earning per share or the rate of return on common shareholders' equity increases. However, the company's earnings per share or the rate of return on equity will fall if the company obtains the fixed charges funds at a cost higher than the rate of return on the company's assets. The EPS and the rate of return on equity are important figures for analyzing the impact of financial leverage.

¹⁵ Ibid., P.203-5

The EPS return on equity can be calculated as follows;¹⁶

$$\text{EPS} = \frac{(X-R)(I-t)-D}{N}$$

Where as, X= earnings before interest and taxes (EBIT), I=interest charges, t= tax rate, N= number of common share outstanding, pd= preference dividend

$$\text{Return of equity (e)} = \frac{(X-R)(I-t)D}{N}$$

Where, 'E' represent the common shareholders funds (share capital plus reserves and surplus) or not worth.

"In general terms, leverage may be defined as relative change in profits due to change in sales. A high degree of leverage means that a large change in profits occurs due to a relatively small change in sales. In business terminology, leverage is used in tow senses."¹⁷

(i) Operating leverage and (ii) Financial leverage

Operating leverage refers to the use of fixed costs in the operation of the firm. A firm has a high degree of operating leverage if it employs a greater amount of fixed costs (and a small amount of variable costs). On the other hand, if the firm (incur a greater amount of variable costs and) employs a small amount of fixed costs, it has a low degree of operating leverage. The profits of a highly leveraged (operating) firm will increase at a faster rate than the increase in sales. However, if the sales fall, the firm with a high degree of operating leverage will suffer a great loss than a firm with low or moderate degree of operating leverage.

¹⁶ Ibid., P.205-08

¹⁷ Ibid., P.591-94

The degree of operating leverage (DOL) may be defined as the percentage change in profits resulting from a percentage change in sales. DOL may be expressed in the equation from as follows;

$$DOL = \frac{\text{Percentage change in profits}}{\text{Percentage change in sales}}$$

Or,

$$DOL = \frac{\text{Contribution margin}}{EBIT}$$

Operating leverage affects EBIT, while degree of financial leverage (DFL) affects earnings after taxes & interest, which is available to common share holders

$$DFL = \frac{EBIT}{EBIT - R}$$

Where, R represents interest charges.

Degree of combined leverage (DCL) is the combination of operating and financial leverage, which shows the relation between sales of production and EBT. By the help of DCL, it can be found that the impact of EBT when changes in sales. It can be calculated as;

$$\text{Degree of combined leverage (DCL)} = DOL \times DFL$$

2.1.4 Characteristics of appropriate capital structure;

The financial manager of a company should create or developed an appropriate capital structure, which most advantageous to the company.

" A sound or appropriate capital structure should have the following features;"

☞ Profitability: The capital structure of the company should be most advantageous. Within the constraints, maximum use of leverage at a minimum cost should be made.

☞ Solvency: The use of excessive debt threatens the solvency of the company. To the point debt doesn't add significant risk it should be use, otherwise its use should be avoided.

☞ Flexibility: The capital structure shouldn't be inflexible to meet the changing conditions. It should be possible for a company to adapt its capital structure with a minimum cost and delay if warranted by a changed situation. It should also be possible for the company to provide funds whenever needed to finance its profitable activities.

☞ Conservatism: The capital structure should be conservative in the sense that the debt capacity of the company should not be exceeded. The debt capacity of a company depends on its ability to generate future cash flows. It should have enough cash to pay creditors' fixed charges and principal sum.

☞ Control: The capital structure should involve minimum risk of loss of control of the company.

2.1.5 Determinants of the capital structure:

The initial capital structure should be designed very carefully. The management of the company should set a target capital structure and the subsequent financing decisions should be made with a view to achieve the target capital structure. The financial manager has also to deal with an existing capital structure. Every time, when the funds have to be procured, the financial manger weighs the pros and cons of various sources of finance and selects most advantageous sources of capital structure. Generally, the following factors should be considered whenever a capital structure decision has to be taken; ¹⁸

¹⁸ Ibid., P.260-69

(i) **Leverage effect on EPS** - The use of fixed cost sources of finance such as debt and preference share capital, to finance the assets of the company is known as financial leverage. If the assets financed with the use of debt yield a return greater than the cost of debt, the earning per share increase without an increase in the owner's investment. The EPS also increase when the preference share capital is used to acquire assets. But the leverage impact is more pronounced in case of debt because the cost of debt is usually lower than the cost of preference share capital and the interest paid on debt is tax deductible. Because it effects on the EPS; financial leverage is one of the important considerations in planning the capital structure of a company. The companies with high level of earnings before interest and taxes can make profitable use of the high degree of leverage to increase return on the shareholders' equity. The firm is able to maximize the EPS when it uses the debt financing. Though, the rate of preference dividend is equal to the rate of interest, EPS is high in case of debt financing because the interest charges are tax deductible, while, preference dividends are not. the BIT-EPS analysis is an important tool in the hands of the financial manager to get an insight into the firm's capital structure management and the financial manager can consider the possible fluctuations in EBIT and examine the impact on EPS under different financial plans.

(ii) **Cost of capital**: - The debt and the preference share capital are cheaper than equity capital. The impact of financing decision on the overall cost of capital should be evaluated and the criterion should be to minimize the overall cost of capital, or to maximize the value of the firm. Generally the combination of debt and equity, which minimizes the firm's average cost of capital and maximizes the market value per share. In practice there is generally a range of debt-equity ratio within which the cost of capital is minimum or the value is maximum.

(iii) **Growth and stability of sales-** Another determinant of the capital structure is growth and stability of sales. The company or firm with stable sales can employ a high degree of leverage. The likely fluctuations in sales increase the business risk. As a result, the shareholders perceive a high degree of financial risk if such companies employ debt. On the other hand, the sales of public utilities are quite stable and predictable. The expected growth in sales also affects the degree of leverage. The greater the expectation of growth, the greater the amount of external financing needed. The cheapest and most advantageous source of external financing is debt. The growth firms, therefore, usually employ a high degree of leverage. The companies with declining sales should not employ debt or preference share capital in their capital structure, as they would find difficulty in meeting their fixed obligations.

(iv) **Control-** The control is the determinants of capital structure. The ordinary shareholders have legal right to elect the directors of the company. If company issues new shares, there is risk of loss of capital. The shares of such companies are widely scattered. Most of the shareholders are not interested in taking active part in the company's management. They do not have time and money to attend the meetings. They are simply interested in dividends and the price of share, if they are not satisfied with the management of the company; they will sell their shares to others. Thus, the best way to ensure the control and to have the confidence of the shareholders is to manage company most efficiently. The loss of control regarding the risk can be reduced by the distributing shares widely and don't have voting rights therefore, it is suggested that a company should use debt to avoid the loss of control. A very excessive amount of debt can also cause bankruptcy i.e. complete loss of control.

(v) **Flexibility**- Flexibility is one of the most serious considerations in setting up the capital structure. It is the firms' ability to adapt its capital structure to the needs of the changing conditions. The capital structure of a firm is flexible if it has no difficulty in changing its sources of funds. The company should be able to raise funds without undue delay and costs. The financing plan of the company should be flexible enough to change the composition of the capital structure. The degree of flexibility in fixed charges, the terms of redemption and the debt capacity. Although flexibility is most desirable, it is achieved at a cost. A company trying to obtain loans at easy terms will have to pay interest at a higher rate. Also to obtain the right of refunding, it will compensate creditors by paying a higher interest rate. Thus, the company should compare the benefits and cost of attaining the desired degree of flexibility and balance them properly.

(vi) **Size of the company** - The size of the company greatly influences the availability of funds from different sources. Generally, a small company has great difficulties in raising long-term loans. On the other hand, if it is able to obtain some long-term loan, it will be available at a higher rate of interest and inconvenient terms. Small companies depend upon share capital and retained earnings for their long-term funds. The shares of small companies are not widely scattered therefore, sometimes, the small companies limit the growth of their business to what can easily be financed by retaining the earnings. On the other hand, the shares of large company are widely distributed and it may difficult to organize & to manage the widely scattered shareholders against the existing management team. A large company has a greater degree of flexibility in designing its capital structure. Such company can obtain the loans at easy terms as well as can sell their common stock, preference shares and debentures to the public. Because of large size of issues, its cost of distributing any kind of

security is less than that for a small company. Thus a company should make a best use of its size in planning the capital structure.

(vii) **Marketability**- It is the readiness of investors to purchase a particular type of security in a given period of time. It doesn't influence the initial capital structure but is an important consideration to decide about the appropriate the timing of security issues. The capital markets are changing continuously. The market favors debenture issues and, at another time, it may readily accept common shares issues. Due to the changing market sentiments, the company has to decide whether to raise funds with a common shares issue or with a debt issue. Thus, it should be considered in planning the capital structure to the company.

(viii) **Floatation cost** - It is not a very important factor influencing the capital structure. Flotation costs are incurred only when the funds are raised. Generally, the cost of floating a debt is less than the cost of floating equity issue. This may encourage a company to use debt than issue common shares. If retaining the earnings increases the owners' capital, no flotation costs are incurred.

Therefore, the financial manager should consider above-mentioned factors in planning their optimal capital structure of the company. If the financial manager ignores any factors, then the capital structure of a company may failure.

2.1.6 Assumption of Theory of capital structure:

To present the analysis as simply as possible, the following assumption have been made:¹⁹

- There are no corporate or personal income taxes no bankruptcy costs. (This assumption is relaxed later on)

¹⁹ James C. Van Horne, op. cit., P.252

- The ration of debt to equity for a firm is changed by issuing debt to repurchase stock to pay off debt. In other words, a change in capital structure is effected immediately. In this regard, we assume no transaction costs.
- The firm has a policy of paying 100% of its earning in dividends.
- The expected value of the subjective probability distribution of expected future operating earnings for each company, are the same for all investors in the market.
- The operating earnings of the firm are not expected to grow. The expected values of the probability distributions of expected operating earnings for all future periods are the same as present operating earnings.
- Firms employ only two type of capital i.e. debt and equity and the business risk is assumed to be constant and independent of capital structure and financial risk." ²⁰
- The total assets of the firm are given. The degree of leverage can be changed by selling debt to repurchase shares or selling shares to retire debt." ²¹

In this analysis of capital structure theories, following three rates are concerned." ²²

²⁰ Pandey I.M. op., cit, P.228

²¹ Pandey I.M. op., cit, P.228

²² Pandey I.M. op., cit, P.228

$$(i) \frac{K_i}{B} = \frac{F}{B} \quad (ii) \frac{K_e}{S} = \frac{E}{S} \quad (iii) k_o = \frac{NOI}{V_f}$$

Where, $V_f = B + S$. Here, K_o is an overall capitalization rate for the firm. It is defined as the weighted average cost of capital and may also be expressed as follows;

$$k_e = k_i(B/B+S) + k_e(S/B+S)$$

Whereas, k_i = cost of debt, F = Annual interest charges or total interest payment, B = Market value of debt outstanding, k_e = cost of equity, E = earnings available to common stockholders, S = Market value of stock outstanding. EBIT = Earning before interest and taxes, k_o = Overall capitalization rate or Overall cost of capital, NOI = Net operating income or earnings, V_f = Total market value of the firm, (i.e. $B + S$)

2.1.7 Theory of capital structure;

The design of the firm's financing mix, particularly emphasizing management of the firm's permanent sources of funds that is its capital structure. The objective of capital structure management is to arrange the company's sources of funds so that its common stock price will be maximized, all other factors hold constant.

The capital structure design can affect the value of the company either by changing the expected earnings or the cost of capital or both. If leverage affects the cost of capital and the value of firm, an optimal capital structure would be obtained at the combination of debt and equity that maximizes the total value of the firm (Value of shares plus value of debt) or minimizes the weighted average cost of capital." ²³

²³ Pandey I.M. op., cit, P.227

Under appropriate capital structure, proper sources of capital should be considered. Where, the firm could maximize its value or could minimize the cost of capital.

2.1.7.1 Net income approach

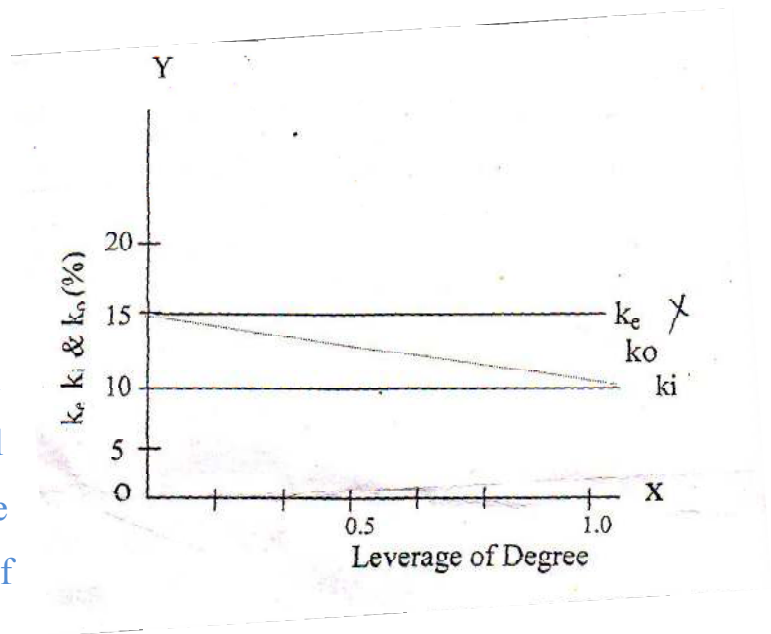
This net income (NI) approach is suggested by David Durand. According to this approach, the capital structure decision is relevant to the valuation of the firm. In other words, a change in the capital structure or financial leverage will lead to a corresponding change in the overall cost of capital as well as the value of the firm. If, therefore, the degree of financial leverage as measured by the ratio of debt to equity is increased, the weighted average cost of capital will decline, while the value of the firm as well as the market price of ordinary shares will increase. Conversely, a decrease in the leverage will cause an increase in the overall cost of capital and a decline both in the value of the firm as well as the market price of equity shares.

The NI approach to valuation is based on the following assumptions;

- There are no taxes.
- That the cost of debt is less than the equity capital capitalization rate/cost of equity.
- That the use of debt doesn't change with the introduction of debt or change in either the cost of debt or the cost of equity.

The financial leverage is according to NI approach, an important variable in the capital structure decision of firm. With a judicious mixture of debt and equity a firm can evolve an optimum capital structure, which will be, the one at which value of the firm is the highest and the overall cost of capital the lowest, At that structure the market price per share would be maximum.

If the firm uses no debt or if the financial leverage is zero, the overall cost of capital will be equal to the equity capitalization rate. The weighted average cost of capital will decline and will approach the cost of debt as the degree of leverage reaches one.



The essence of Net Income (NI) approach is that the firm can increase its value of lower the overall cost of capital by increasing the proportion of debt in the capital structure.

The use of additional debt has caused the total value of the firm to increase and the overall cost of capital to decrease. Thus, the decrease in leverage has increased the overall cost of capital and has reduced the value of the firm. Thus, according to the NI approach, the firm can increase/decrease its total value (V_f) and lower/increase its overall cost of capital (k_e) as it increases/decreases the degree of leverage. As a result, the market price per share affected.²⁴

The relationship between the various factors (i.e. k_e , k_i , k_o) with the degree of leverage, on the basis of its above-mentioned assumptions can be presented by the figure as under.

The degree of leverage (B/S) is plotted along the X-axis, while the percentage rate for k_i , k_e , & k_o on the Y-axis. Due to the assumptions that k_e & k_i (i.e. cost of equity and cost of debt respectively) remain unchanged as the

²⁴ Khan My & Jain PK. op. cit., P 479

degree of leverage changes, where both curves are parallel to the X-axis. But as the increases, k_o (i.e. overall cost of capital) decreases and approaches the cost of debt when the leverage is 1.0 (i.e. $k_o=k_e$) It will be so obviously owing to the fact that there is no equity amount in the firm's capital structure. At this point, the firm's overall cost of capital would be minimum. Therefore, the significant conclusion, of the NI, approach is that the firm can employ almost 100% debt to maximize its value.

Under this approach, total value of firm and k_o measured by;²⁵

$$k_o = \frac{NOI}{V_f}$$

Where, k_o = overall cost of capital, NOI= Net operating income, V_f = Value of the firm (i.e. B+S), B= Market value of debt outstanding, S= Market value of stock outstanding.

2.1.7.2 Net operating Income (NOI) approach:

Another theory of capital structure, suggested by Durand David, is the net operating income (NOI) approach. This approach is diametrically opposite to the NI approach. The essence of this approach is that the leverage/capital structure decision of the firm is irrelevant. Any change in leverage will not lead to any change in the total value of the firm and the market price per shares, as the overall cost of capital is independent of the degree of leverage, and this approach (NOI) is based on the following proposition;²⁶

◇ Overall cost of capital or capitalization rate k_o is constant- The NOI approach to valuation argues that the overall capitalization rate of the firm

²⁵ Pandey IM,op. cit., P 231

²⁶ Pandey IM,op. cit., P 231

remains constant for all degrees of leverage. The value of the firm, given the level of EBIT, is calculated as;

$$V = \frac{EBIT}{k_o}$$

In other words, the market evaluates the firm as a whole. The split of the capitalization between debt and equity is therefore, not important.

◇ **Residual value of equity-** The value of equity is a residual value, which is determined by deducting the total value of the debt (B) from the total value of the firm V_f . Thus, total market value of equity (S) = $V_f - B$

◇ **Changes in cost of equity capital-** The cost of capital (k_e) increases with the degree of leverage. The increase in the proportion of debt in the capital structure relatively to equity shares would lead to an increase in the financial risk to the ordinary shareholders. In other words, the use of less costly debt fund increases the risk to shareholders. Thus, the advantage of debt is offset exactly by the increase in the equity capitalization rate (k_e).

◇ **Cost of debt-** It has two parts ; they are (i) **explicit cost-** represented by the rate of interest. Irrespective of the degree of leverage, the firm is assumed to be able to borrow at a given rate of interest. This implies that the increasing proportion of debt in the financial risk of the lenders and they don't penalize the firm by charging higher interest. (ii) **Implicit or hidden cost-** As shown in the assumption relating to the changes in k_e , increase in the decrease of leverage or the proportion of debt to equity causes an increase in the cost of equity capital. This increase in k_e , being attributable to the increase in debt, is the implicit part of k_i . Thus, the advantage associated with the use debt, supposed to be a 'cheaper' source of funds in terms of the explicit cost, is exactly neutralized by the implicit cost represented by the increase in k_e . As a result, the real cost of

debt and the real cost of equity, according to the NOI approach is the same and equal k_o .

◇ Optimum capital structure - The total value of the firm is unaffected by its capital structure, NO matter what the degree of leverage is , the total value of the firm will remain constant. The market price of shares will also not change with the change in the debt equity ratio. There is nothing such an "Optimum capital structure". Any capital structure is optimum, according to this NOI approach.

Other critical assumption of the NOI approach can be explained as: the corporate taxes don't exist; the debt capitalization rate k_i is constant as k_o , the market uses an overall capitalization rate (k_o) to capitalize the net operating income, k_o depends on the business risk. If the business risk is assumption to remain unchanged, k_o is a constant

$$V_f = (B+S) \frac{NOI}{K_o}$$

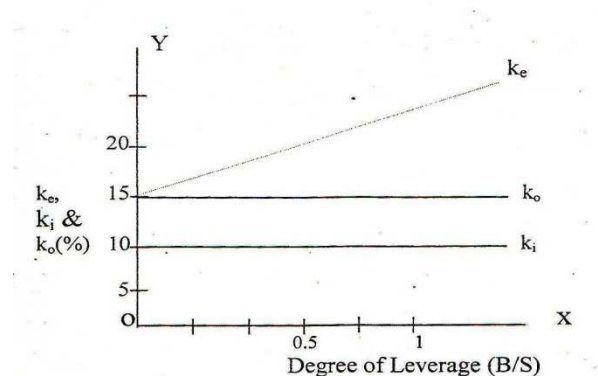
The cost of equity (K_e) will be measured as follows

$$K_e = K_o + (K_o - K_i) \frac{B}{S} \text{ Or, } K_e = \frac{E}{S}$$

Where E is simply net operating income minus interest payments and S is market value of stock.

The relationship between the various factors (i.e. K_e , K_i , K_o) with the degree of leverage, on the basis of its above-mentioned assumptions, figure can be presented as follows;

With this approach, net operating income is capitalized at on overall capitalization rate to obtain the total



market value of the firm. The market value of the debt then is deducted from the total market value to obtain the market value of the stock. Under this approach (NOI), the overall capitalization rate, k_o , as well as the cost of debt funds, k_i , stay the same regardless of the degree of leverage. The required return on equity, however, increases linearly with leverage.

The critical assumption with this approach is that k_o is constant, regardless of the degree of leverage. The market capitalizes the value of the firm as a whole; as a result, the breakdown between debt and equity is unimportant. An increase in the use of supposedly 'cheaper' debt funds is offset exactly by the increase in the required equity return, k_e . Thus the weighted average of k_e and k_i remain unchanged for all degree of leverage. AS the firm increases its degree of leverage it becomes increasingly more risky. As long as k_e remains constant, k_o is a constant linear function of the debt to equity ratio. Because the k_o can't be altered through leverage, the NOI approach implies that there is one optimal capital structure.²⁷

2.1.7.3 Traditional Approach (TA)

"The traditional approach to valuation and leverage assumes that there is an optimal capital structure and that the firm can increase the total value of the firm through the judicious use of leverage. The approach suggests that the firm initially can lower its cost of capital and raise its total value through leverage. Although investors raise the required rate of return on equity, the increase in k_e doesn't offset entirely the benefit of using "cheaper" debt funds. As more leverage occurs, investors increasingly penalize the firm's required return until eventually this effect more than offset the use of "cheaper" debt funds."²⁸

²⁷ Van Horne James C.,op. cit., P 253-54

²⁸ Ibid. 254

There are, of course variations to the traditional approach. According to one of these, the equity-capitalization rate K_e rises only after a certain level of leverage and not before, so that the use of debt does not necessarily increase the K_e . This happens only after a certain degree of leverage. The implication is that a firm can reduce its cost of capital significantly with the initial use of leverage. Another variant of the traditional approach suggests that there is no one single capital structure but, there is an arrangement of capital structure in which the cost of capital (K_o) is the minimum and the value of the firm is the maximum. In this range, changes in leverage have very little effect on the value of the firm.²⁹

"According to this view, the value of the firm can be increased if the cost of capital can be reduced by the judicious mix of debt and equity capital. This approach very clearly implies that the cost of capital decreases within the reasonable limit of debt and then increases with leverage. Thus, an optimal capital structure exists and occurs when the cost of capital declines with leverage because debt capital is cheaper than equity capital within reasonable or acceptable, limit of debt. The statement that debt funds are cheaper than equity funds carries the clear implication that the cost of debt, plus the increase in cost of equity, together on a weighted basis, will be less than the cost of equity that extends on equity before debt financing. In other words, the weighted average cost of capital will decrease with the use of debt. According to the traditional approach, the manner in which the overall cost of capital reacts to changes in capital structure can be divided into three stages."³⁰

Stage I- In this first stage, the rate at which the shareholders' capitalize their net income, i.e. the cost of equity (K_e) remains constant or rises slightly with debt. But when it increases, it doesn't increase fast enough to offset the

²⁹ Khan M & Jain PK op, cit, P 496

³⁰ Pandey IM, op. cit 236

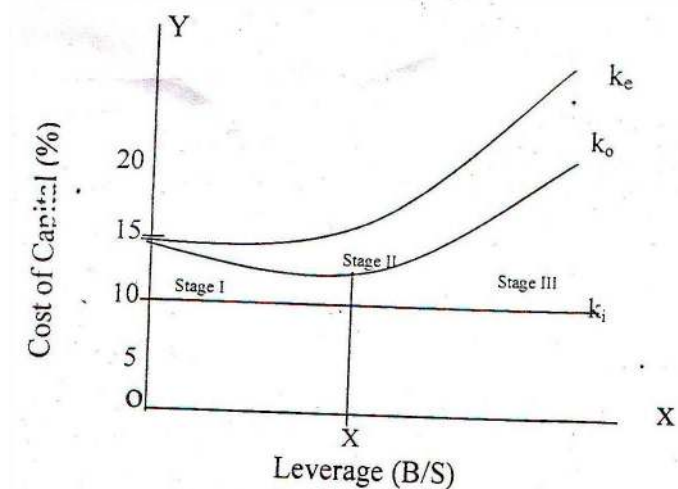
advantage of low cost of debt. During this stage, the cost of debt (K_i) remains constant or rise negligibly since the market views use of debt as a reasonable policy. As a result, the value of the firm (V_f) increases or the overall cost of capital (K_e) fall with increasing leverage.

Stage II- In this stage, the firm has reached a certain degree of leverage; increases in leverage have a negligible effect on the value, or the cost of capital of the firm. This is because the increase in the cost of equity due to the added financial risk offsets the advantage of low cost debt within that range or at the specific point, the value of the firm will be maximum or the cost of capital will be minimum.

Stage III - In this stage, the value of the firm decreases with leverage or the cost of capital increases with leverage. This happens because; the investors perceive a high degree of financial risk and increase equity-capitalization rate by more than to offset the advantage the low cost debt. It can be shown from the following figure.

In one variation of the traditional approach, shown on above figure K_e , is assumed to risk at an increasing rate with leverage, whereas, k_i is assumed to rise only after significant leverage has occurred. At first,

the weighted average cost of capital declines with leverage because the rise in K_e doesn't entirely offset the use of cheaper debt funds. As a result, the weighted average cost of capital (K_o) declines with moderate use of leverage.



After a point, however, the increase in K_e more than offsets the use of cheaper debt funds in the capital structure, and k_0 begins to rise. The rise in k_0 is supported further once k_i begins to rise. The optimal capital structure is the point 'X'. Thus, the traditional position implies that the cost of capital is not independent of the capital structure of the firm and that there is an optimal capital structure.³¹

2.1.7.4 Modigliani-Miller (MM) Approach:

This hypothesis (MM approach) is identical with the NOI approach, and M-M argue that in the absence of taxes, a firm's market value and the cost of capital remain invariant of the capital structure changes.

This approach maintains that the weighted average (Overall) cost of capital doesn't change, with a change in the proportion of the debt to equity in the capital structure (On degree of leverage). It has following basic propositions and assumptions.³²

Basis proposition:-

1. The overall cost of capital (K_0) and the value of the firm (V_f) are independent of its capital structure. The K_0 and V_f are constant for all degree of leverage. The total value is given by capitalizing the expected stream of operating incomes at a discount rate appropriate for its risk class.
2. The cost of equity K_e is equal to the capitalization rate of a pure equity stream plus premium for financing risk equal to the difference between

³¹ James C. Van Horne, op. cit 255

³² Khan My & Jain PK, op. cit P. 485-86

the pure-capitalization rate (k_e) and k_i times the ratio, the ratio of debt to equity

Assumptions:- It has following assumption that M-M approach have been made;

- ⇒ Perfect capital market i.e. securities are infinitely divisible, investors are free to buy/sell securities, no transaction costs, investors are rational & behave accordingly, information are perfect, investors can borrow without restriction on the same terms and conditions as firm can
- ⇒ Given the assumption of perfect information and rationality, all investors have the same expectation of firm's NOI (EBIT) with which to evaluate the value of any firm.
- ⇒ Business risk is equal among all firms with similar operating environments; the dividend payout ratio is 100 %. And there are no taxes. This assumption is removed later.

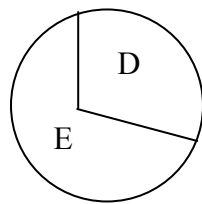
On the basis of above-mentioned assumptions, the M-M approach has been created and this approach supports to NOI approach. Given the above stated assumptions, M-M argue that for firms in the same risk class, the total market value is independent of the debt equity combination and is given by capitalizing rate appropriate to the risk class.

"Modigliani and Miler (MM) in their original advocate that the relationship between leverage and the cost of capital is explained by the net operating income approach. They make a formidable attack on the traditional position by offering behavioral justification for having the cost of capital, K_o , remain constant through out all degree of leverage."³³

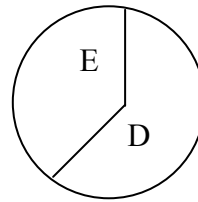
The M-M Position is based on the idea that no matter how it divides up the capital structure of a firm among debt, equity and other claims, there is a conservation

³³ Van Horne, op. cit P.255.

of investment value. That is, because the total investment value of a corporation depends on its underlying profitability and risk, it is invariant with respect to relative changes in the firm's financial capitalization. Thus, the total pie doesn't change as it is divided into debt, equity and other securities. The sum of the parts must equal the whole; so regardless of financing mix; the total value of the firm stays the same, according to M-M. In this regard, the idea is illustrated with the two pies in figure below, different mixes of debt and equity do not alter/change the size of the pie total value stays the same.³⁴



Firm Value



Firm Value

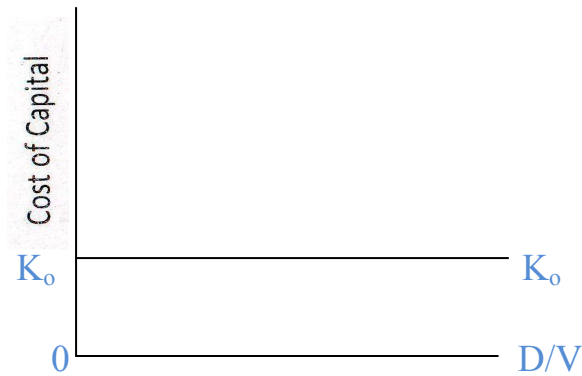
M-M in theirs' proposition I, argue that for firms in the same risk class, the total market value is independent of the debt equity combination and is given by capitalizing the expected not operating income by the rate appropriate to that risk class. It can be expressed mathematically as follows;

$$V=(S + D) = \frac{\overline{X}}{K_o} = \frac{NOI}{K_o}$$

Where as, V=market value of the firm, S= market value of the firm's common shares, D=Market value of the debt, X=the expected net operating income on the assets of the firm, k_o =the capitalization rate appropriate to the risk class of the firm, k_e =cost of equity, k_d =cost of debt and NOT=Net operating income.

³⁴ Ibid., P.256

MM conclude that total market value of the firm is unaffected by the financing mix, it follows that the cost of capital is independent of the capital structure and is equal to the capitalization rate of a pure equity stream of its class. The cost of capital function as hypothesized by MM through proposition, it can be shown in figure that the average cost of capital is constant and is not affected by the leverage, as follows.



M-M's proposition II, which defines the cost of equity, follows from their proposition I. The cost of equity formula can be derived from MM's definition of the average cost of capital. The expected yield on equity or the cost of equity can be defined as follows;³⁵

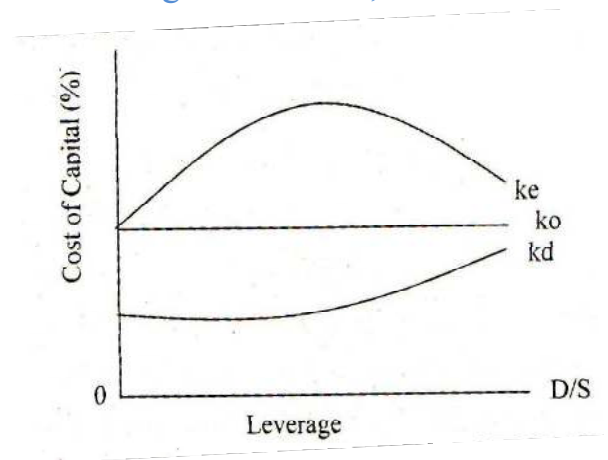
$$K_e = k_0 + (k_e - k_d)D/S$$

This equation states that, for any firm in a given risk class, the cost of equity, k_e , is equal to the constant average cost of capital i.e. k_0 , plus a premium for the financial risk, which is equal to debt- equity ratio times the spread between the constant average cost of capital and the cost of debt, $(K_0 - K_d)^D/S$. The cost of equity, k_e is a linear function of leverage, measured by D/S . Thus, the leverage will result in earnings per share to shareholders but also increased cost of equity. The benefit of leverage is exactly taken off by the increased cost of equity, and consequently, the firm's market value will remain unaffected. It

³⁵ Ibid., P.244-45

should, however, be noticed that the functional relationship $K_e = k_0 + (k_e - K_d) D/S$ is valid irrespective of any particular valuation theory. The important fact of the MM approach is that k_0 will not rise even if very excessive use of leverage is made. The conclusion could be valid if the cost of borrowings, K_d , remains constant for any degree of leverage. MM maintain that even if the cost of debt, K_d , is increasing, the weighted average cost of capital, K_e , will remain constant. They argue that when K_d increases, K_e will increase at a decreasing rate and may even turn down eventually. This can be presented in figure as below,

MM insist that the arbitrage process will work and that as K_d increases, some investors actually become risk-seekers, whereas before they avoided risk. MM's assumption that risk averters could become risk-seekers under extreme leverage situation doesn't seem to be plausible at all. Undoubtedly, an excessively levered firm is highly risky because of the increased profitability of insolvency. It is therefore, unlikely that the shares of such a firm would sell at a price higher than that of an unlevered firm. This implies that the cost of equity can't fall as leverage increases.



2.1.8: Modern theory of Capital structure:

2.1.8.1 Pecking Order Theory:

"The pecking order theory is a dynamic story. The observed capital structure of each firm will depend on its history. For example, an unusually profitable firm in an industry with relatively slow growth (few investment opportunities) will end up with an unusually low debt-to-equity ratio. It has no

intensive to issue debt and retire equity. An unprofitable firm in the same industry will end up with a high debt ratio.

According to the pecking order theory, retained earnings are the preferred source of financing followed by debt, and then common stock.

"The pecking order story is mainly a behavioral explanation of why certain companies finance the way they do. It is consistent with some rational arguments, such as asystematic information and signaling, as well as with flotation costs. Moreover, it is consistent with the observation that the most profitable companies within an industry tend to have the least amount of leverage. However, the pecking order hypothesis suggests that corporations do not have a well-thought-out capital structure. Rather, a company finances over time with the method providing the least resistance to management. The capital structure that results is a by-product and changes whenever there is an imbalance between internal cash flows and capital investments.

It has been argued that management follows a pecking order when it comes to the method of financing. Most desirable, because it is safest and least intrusive, is internal financing. The least desirable alternative is equity.

2.1.8.2: Agency cost Theory:

"The stock price of a company owned by investors who are separate from management may be less than the stock value of a closely held firm. This potential difference in price is the 'cost of the conflict to the owners' which has come to be called "agency costs."

"In the modern corporation, ownership is commonly widely diffused. The day-to-day operations of the firms are conducted by its managers, who usually don't have major stock ownership positions. In theory, the managers are the

agents of the owners, but, in fact, they may exercise control over the firm. Thus, potential conflicts of interest may arise between the owners and managers. This is called the "agency problem", The divergence of interests between a principal and his agent.

Agency cost includes (i) auditing systems to limit this kind of management behaviors, (ii) Various kinds of bonding assurances by the managers that such abuses will not be practiced, and (iii) changes in organization system to limit the ability of managers to analyze in undesirable practices.³⁶

Some investors may prefer a lower-risk debt position while others may prefer the higher-risk controlling equity position. In spite of the advantages of separating ownership from operating control and of having two classes of capital (debt & equity), there are associated agency costs that must be considered. Agency costs increase with the use of higher proportion of debt. There is an optimum combination of outside equity and debt that may minimize total agency costs.

2.1.9: Optimum Capital structure:

An optimum capital structure would be obtained at that combination of debt and equity that maximizes the total value of the firm or minimizes the weighted average cost of capital. "The optimum capital structure would be obtained when the market value per share is maximum or the average cost of capital is minimum. The value will be maximized or the cost of capital will be minimized when the marginal real cost of each sources of funds is the same.

³⁶ Ibid., P.9

The objective of capital structure management is to mix the permanent sources of funds used by the firm in a manner that will maximize the firm's common stock price. Alternatively, this objective may be viewed as a search for the funds mix that will minimize the firm's composite cost of capital. It is called proper mix of funds sources the optimal capital structure.

"The optimal capital structure minimizes the firm's composite cost of capital. Searching for a proper range of financial leverage, then, is an important financial management activity.

"The optimal capital structure is approximated by the identification of target debt ratios. The target reflects the firm's ability to service fixed financing costs and also considers the business risk to which the firm is exposed.³⁷

Here in the brief, about the optimum capital structure under different approaches can be taken as follows;

According to Net Income approach, the optimum capital structure would occur at that point where the value of the firm is maximum and the overall cost of capital is minimum. Under this approach, the firm will have the maximum value and the lowest cost of capital, when it is all debt-financed or has as much debt as possible.³⁸

According to Net Operating Income approach, over all cost of capital and cost of debt are constant and cost of equity increases with leverage continuously. As the k_o is constant, this approach implies that there is not any unique optimum capital structure. In other words, this means that, as the cost of capital is the same at all capital structure, every capital structure is optimum.

³⁷ Ibid., P.394

³⁸ Pandey IM, op. cit., P.232-33

According to Traditional approach, there is a capital structure and that the firm can increase the total value of the firm through the judicious use of leverage. The approach suggests that the firm initially can lower its cost of capital and raise its total value through the leverage, this approach implies that the cost of capital is not independent of the capital structure of the firm and there is an optimal capital structure.³⁹

"If there is an optimal capital structure for a company it will minimize the company's cost of capital and maximize the shareholder's wealth."⁴⁰

Thus, to be an optimal capital structure, the combination of equity and debt should be considered by the financial manager that could minimize the cost of capital and could maximize the value of the firm or shareholder's wealth.



³⁹ James C. Van Horne, op. cit., P.254-55

⁴⁰ Weston J. Fred & Copeland Thomas E. (1998), *Managerial Financial*, The Dryden press, 9th ed., P.565

CHAPTER- III

RESEARCH METHODOLOGY

3.1 Introduction

The term 'Research methodology' is composed of two words 'Research' and 'Methodology'. In simply, research refers investigation or, careful study, especially, in order to discover new facts or information. In other hand, a set of methods used in a particular area of activity is known as methodology.

The research, it generates new knowledge, which can be used for different purposes. In other words, it is a systematized effect to gain new knowledge. Furthermore, the research is used to build a theory, develop policies, support decision-making and solve problems. With the opening of new frontiers of knowledge through research, new concepts and theories are developed to explain, verify and analyze the social phenomena.⁴¹

Methodology is the research method used to test the hypothesis. It refers to the systematic method consisting the problem, formulating the hypothesis, collecting the data, and analyzing the facts to reach the certain conclusion.

"Research is a systematic and organized effort to investigate a specific problem that needs a solution (Sekaran, 1992). This process of investigation involves a series of well thought out activities of gathering, recording, analyzing and interpreting the data with the purpose of finding answer to the

⁴¹ Wolf H.K. & Pant P.R, (2000), A hand book for social science Research & Thesis Writing, Buddha Academic Enterprises Pvt Ltd. KTM, Nepal P.204

problem. Thus, the entire process by which we attempt to solve problems is called research."⁴²

Therefore, Research Methodology is a way to solve the research problem with systematically. In other words, those systematic rules, methods or working system, which is considered in research to solve the solution, is called research methodology, where research can be undertaken for two different purposes. The first purpose is to solve a currently existing problem in the work setting and other purpose is to generate a new knowledge in a particular area or to develop a base of knowledge upon which theory can be built.

"Research Methodology refers to the various sequential steps to be adopted by a research in studying a problem with certain object in view."⁴³

This chapter includes research design, population & sample of the study, sources of data, data collection techniques, data analysis tools ect.

3.1.1: Research Design

The research design provides the framework to a study. Actually, it is the outline of a plan to test the hypothesis and the research design is also known as the conceptual structure within which research is conducted.

After formulating the research study, the next logical step is to construct the research design that refers to the entire process of planning and carrying out a research study. The research design asks what approach the problem should be taken,; What methods will be used ?; What strategies will be most effective ?; Identification, selection and formulation of a research problem may be considered as the planning stage of a research. The remaining activity refers to

⁴² IbidP.203

⁴³ Kothari C.R, 3rd revised edition, 1999 "*Quantitative Technique*" Vikas publishing House (p) ltd, India P.19

the designs, operation and completion of the research study.⁴⁴ "The research design is the strategy for conducting research. It describes the general framework for collecting analyzing and evaluating data after identifying (i) What the researcher wants to know, and (ii) What has to be dealt with in order to obtain required information."⁴⁵

"Research design is the plan, structure and strategy of investigation conceived so as to obtain answer to research questions and to control the variance. The plan is the overall scheme or program of the research. It includes an outline of what the investigator will do from writing the hypothesis and their operational implications to the final analysis of data. The structure of the research is more specific. It is the outline, the scheme, and the paradigm of the operation of the variables. When we draw diagrams that outline the variables and their relation & juxtaposition, we build structural schemes for accomplishing operational research process. Strategy implies how the research objectives will be reached and how the problems encountered in the research will be tackled."⁴⁶

The research design has basically two purposes that the first one is to answer the research question or test the research hypothesis and next one is to control the variance. There are many types of research design such as historical research, descriptive research, case study research, field study research, correlation research, departmental research ect.

This research study is considered to analyze the capital structure of three joint venture bank. Under this, historical research design is applied because historical research design is concerned with past phenomena. It is a process of

⁴⁴ Wolf H.K. & pant P.R. op, cit., P.53

⁴⁵ Ibid., P.209

⁴⁶ Ibid., P.50

collecting evaluating, verifying, and synthesizing past evidence systematically and objectively to reach a conclusion.⁴⁷ The capital structure management of joint venture banks is also concerned with past evidence. Therefore, the historical research design has adopted in this study by the help of financial statements such as balance sheets, profit and loss accounts and cash flow statements from fiscal year 2003/04 to 2007/08 (i.e. five years) The past evidences can be found either primary source or secondary source, and to support the historical research design, the researcher has used the analytical and descriptive study methods. In conclusion, research design can be said as the combination of tools to measure the position of capital structure in the company.

3.1.2 Population and sample of the study:

3.1.2.1: Population:

In any statistical investigation, the interest usually lies in studying the various characteristics relating to items of individuals belonging to a particular group. This group of individuals under study is known as the population. Furthermore, population is the aggregate of objects, animate or inanimate, under study in any statistical investigation.⁴⁸

This case study is related with the capital structure of JVBS. At present, there are more than 17 commercial banks operating with in Nepal. Therefore sampling will be done selecting from population. The following are the population of this study.

Nepal Bank Ltd

Rastriya Banijya Bank

NABIL Bank Ltd

Nepal Investment Bank Ltd

⁴⁷ Ibid., P.54

⁴⁸ Gupta S.C., edition 1996, "*Fundamental of statistics*" Himalayan publishing house, Delhi, P.1039-40

Standard Chartered Bank Ltd

Nepal SBI Bank limited

Everest Bank limited

Nepal Bank of Ceylon Ltd
Bank

Nepal Lumbini Bank Ltd

Siddharth Bank Ltd

Laxmi bank Ltd

Himalayan Bank Ltd

Nepal Bangladesh Bank Ltd

Bank of Kathmandu Ltd

Nepal Industries and Commercial

Machha puchhre Bank Ltd

Kumari Bank Ltd

3.1.2.2: Sample:

Sample refers to a part chosen from the population. Sample means the 'part of whole '. The process of selection a sample from a population is called 'sampling'. It is a tools, which helps to researcher to draw conclusion about the characteristics of the population after studying only those observation that are included in the sample. ⁴⁹

In this study, sample refers to only three banks of joint venture banks are chosen for the study purpose among the total population.

The sample to be selected is as following

Himalayan Bank Ltd.

Standard Chartered Bank Ltd.

Everest Bank Ltd

3.1.3: Sources of Data

The data, which are necessary to conduct the research study, can be collected from primary and secondary source. The required financial statements for this research study have been collected form the published annual reports

⁴⁹ Shrestha K.N. & Manadhar K.M. 3rd edition, 2056, "Statistics & quantitative techniques for management vol. I", Valley publishers, KTM, Nepal, p.71

and accounts of the three joint venture banks. In other words, the necessary data have been collected through shareholders of the company. Thus, the source of data collecting is secondary source.

3.1.4: Data collection techniques:

In this research study, necessary financial statements have been collected from the published annual reports and accounts where all the financial data i.e. balance sheet, profit & loss account ect. For five years have been collected from its shareholders and other published books regarding three JVBS have been obtained from the dealers of the company.

3.1.5: Data Analysis Tools:

To analyze the position of capital structure management of three JVBs is the primary objective of this research study. For this purpose, it requires various financial and statistical tools, which helps to researcher to reach in theirs conclusion. But in this regard, financial statements such as balance sheet, profit & loss accounts ect are essential. The help to researcher to reach in theirs conclusion. But in this regard, financial statements can evaluate using various financial and statistical tools techniques, capital structure management of three JVBS.

In this study, to measures the capital structure of three JVBs, both analytical and statistical tools have been used. The important financial tools are ratio analysis, EBIT-EPS analysis, cash flow analysis ect. and other hand, statistical tools are arithmetic mean, standard deviation, coefficient of variation, co-efficient of correlation analysis, testing of hypothesis, trend analysis ect. These tools (financial & statistical) can be explained as follows;

3.1.5.1 Ratio analysis;

To analyze the financial statements, there are various methods and techniques have been used. Out of them, ratio analysis is assumed as powerful tool of financial analysis. Simply, ratio is the expression of the relationship of one item to another. In other words, ratio analysis is a tool of obtaining different relationship between different business terms in simple mathematical value.

"A ratio analysis is expression of the quantitative relationship between two numbers"⁵⁰

"Ratio analysis is a widely-used tool of financial analysis. It is defined as the systematic use of ratio to interpret financial statements so that the strength & weakness of a firm as well as its historical performance and current financial conditions can be determined.

The relationship between two accounting figures, expressed mathematically, is known as financial ratio (or simply a ratio). Ratio helps to summarize the large quantities of financial data and to make quantitative judgement about financial performance.

"To evaluate the financial condition and performance of a company, the financial analyst needs certain yardsticks. The yardstick frequently used is a ratio, or index, relating two pieces of financial data to each other. Analysis and interpretation of various ratios should give experienced, skilled analysts a better understanding of the financial condition and performance of the firm than they would obtain from analysis of the financial data alone"⁵¹

⁵⁰ Munakarmi S.P., (2002), *Management Accounting*, Buddha Academic Publishers & Distributors (P) Ltd 1st edition, , P.462

⁵¹ Van Horne James C., (2002), *Financial Management & policy*, Prentice hall of India (P) Ltd, , P.691

In conclusion, ratio analysis is widely used tool of financial analysis to show the mathematical relationship between two accounting figures. Ratio can be categorized into four parts; such as leverage/solvency/capital structural ratio, profitability ratio, liquidity ratio and activity ratio. Out of them, in order to analyze the capital structure position of three JVBs, following ratios can be focused as a specific;

3.1.5.1.1; Leverage or Solvency Ratio;

The long-term debt and short-term debt both should have strong in the company for sound financial position. To evaluate the long-term financial position of the firm solvency ratio is calculated. Under this, two ratios that, debt equity ratio and the debt-assets ratio are important in analyzing the relationship between the debt and equity components.

"Debt-equity ratio and debt-assets ratio show how much of the firm's assets are financed by debt & equity and give important information about prospects for future financing. If a firm has excessive debt, it will experience difficulty in locating additional debt financing. The firm will be able to borrow only at high interest rate, if at all. On other hand, if the ratio is low (Virtually no debt), it may indicate a failure to use relatively lower cost borrowed funds to raise the return earned on the common stock."⁵²

In practice, leverage is approached in two ways. One approach examines balance sheet ratios and determines the extend to which borrowed funds have been used to finance the firm. The other approach measures the risk of debt by income statement ratios designed to determine the number of times fixed charges are covered by operating profits. These sets of ratios are complementary and most analysts examine both.

⁵² Van Horne James C., (2002), *Financial Management & policy*, Prentice hall of India (P) Ltd, , P.691

Capital structure ratios may be defined as financial ratios, which throw light on the long-term solvency of a firm reflected in its ability to assure the long-term creditors with during regard to (i) periodic payment of interest during the period of loan and (ii) repayment of principal on maturity or in pre-determined installments at the dates

There are three major uses of capital structure ratios"⁵³

- ❑ **To identify sources of funds:-** The firm finances all its resources from debt.
- ❑ **To measure financial risk:-** One measure of the degree of risk resulting from debt financing is provided by these ratios. If the firm has been increasing the percentage of debt in its capital structure over a period of time, this may indicate an increase in risk for its shareholders.
- ❑ **To forecast borrowing prospects:-** If the firm is considering expansion and needs to raise additional money, the capital structure ratios (leverage/solvency) offer an indication of whether debt funds will be available. If the ratios are too high, the firm may not be able to borrow.

Under this leverage/solvency/capital structure ratio, following ratios can be calculated to evaluate the position of capital structure management of three JVBs.

(A) **Debt-Equity Ratio:-** It is a test of long-term solvency of the firm, which measures the relative claims of creditors and owners against the assets of the firm. This ratio includes the relationship between debt and equity.

The objective of calculating this ratio is judge the effectiveness of the long term financial policy of the firm and also indicates the relative proportion of debt and equity influencing the assets of a firm. Components under this ratio

⁵³ Hampton John J., op, cit., P.118

include; (i) Long-term debt (LTD) that involves debentures, bonds, mortgage loan and other long-term loans. (ii) Total debt includes long-term debts and current liabilities, (iii) Shareholders equity (SHE) includes equity/common share capital, preference share capital, share premium, capital reserve, retained earnings, compensation fund, sinking fund ect. This ratio can be calculated as

$$\text{Debt to equity ratio (\%)} = \frac{\text{Total Debt}}{\text{Shareholders' equity}} \times 100$$

A low debt-equity ratio implies the use of more shareholders' funds than the long-term debt, which means a large safety for creditors. A ratio of 1:1 is assumed as ideal ratio, lesser than better. "⁵⁴

(B) Debt ratio: This ratio presents the relationship between total debts and total assets. The objective of compounding this ratio is to measure the relative share of debt in total assets of the firm. Under this ratio, if there is increasing this ratio of company that means the company's position is not sound, i.e. the more increasing this ratio is the more economic risk for the company. This debt ratio includes as a components; (i) total debt that includes long-term debt and current liabilities and (ii) total assets means both current and fixed assets. This ratio can be calculated as:

$$\text{Debt Ratio} = \frac{\text{Total Debt}}{\text{Total assets}}$$

The higher the debt ratio is higher the risk for the company and vice-versa. ⁵⁵

(c) Debt-to-total capital ratio: This ratio helps to establish a link between funded debt and total long-term funds available in the business. The objective of computing this ratio is to measure the relative share of the debt in total

⁵⁴ Pandy I.M., op, cit., P.510

⁵⁵ Dongal R.M.& Prajapati K.P., (2054), *Accounting for Financial Analysis and Planning*. KTM P.479

capital of the firm indicating the long term solvency. This ratio includes long-term debt and permanent capital, where permanent capital indicates long-term debt and shareholders equity, which can be calculated as;

$$\text{Debt-to-total capital Ratio(\%)} = \frac{\text{Total Debt}}{\text{Total assets}}$$

Generally, this ratio should be 2:3 for satisfactory position both for shareholders and long-term loan financiers. A low ratio represents security to creditors in extending fund and a high ratio represents security to creditors in extending fund and high ratio represents a greater risk to creditors.

3.1.5.1.2: Profitability ratio:

This ratio is related to profit of the business. Profit is essential for the survival of the business. Profit, therefore, is regarded as the engine that derives the business and indicates economic progress. Specially, these profitability ratios are calculated either in relation to sales or in relation to investment. Actually, profitability ratios are calculated to measure the overall efficiency of the business.

"The profitability ratios are calculated to measure the operating efficiency of the company. Besides management of the company, creditors & owners are also interested in the profitability of the firm. Creditors want to get a reasonable return on their investment. This is possible only when the company earns enough profits." ⁵⁶

Profitability ratios are of two types; those showing profitability in relation to sales, and those showing profitability in relation to investment. Together these ratios indicate the firm's efficiency of operation.

⁵⁶ Pandey I.M., 1986 edition, Financial Management," Vikas publishing house (P) Ltd, Delhi, P.518

Under this study, profitability ratios of three JVBs are calculated as far as possible to measure capital structure position of this company.

(A) **Return on capital employed:** This ratio measures the relationship between capital employed and not profit after tax that indicates how well the management has used the fund supplied by creditors and owners. The amount of capital employed represents the net current assets (i.e. current assets - current liabilities) and long-term assets of the firm. This ratio can be calculated by using following formula;

$$\text{Return on capital employed (ROCE) ratio (\%)} = \frac{\text{Net profit after tax}}{\text{Capital employed}} \times 100$$

(B) **Return on assets:** This ratio is measured in terms of relationship between net profit and total assets, which measures the productivity of the assets. Net profit is after tax and total assets includes both current assets and liabilities. This ratio can be calculated as follows;

$$\text{Return on assets ratio (\%)} = \frac{\text{Net profit after tax}}{\text{Total assets}} \times 100$$

This ratio is used to examine the effectiveness in using the total fund supplied by the owners and creditors. Higher ratio represents the higher return in the assets used in the business of company i.e. effective use of the resources available and vice-versa.

(C) **Earnings per share ratio:** This ratio measures the earnings available to an equity shareholder on a per share basis. The objective of this ratio is to measure the profitability of the firm on per share basis. As components of this ratio includes net profit after preference dividend and the number of equity shares outstanding. The earnings per share (EPS) of three JVBs can be calculated as follows;

$$\text{Earnings per share (EPS) in Rs} = \frac{\text{Net profit after tax - preference dividend}}{\text{Number of equity shares outstanding}}$$

Higher the EPS indicates better position of the company and vice-versa.

3.1.5.2 EBIT-EPS Analysis;

This analysis (EBIT-EPS) is an important tool for companies' capital structure management that the financial manager seeks to compare alternative methods of financing under various assumptions. Furthermore, this analysis is one of the widely used methods employed to determine the appropriate level of debt. "EBIT is also known as operating income where the before tax income after all operating expenses have been deducted from total revenues.

In other hand, Investment managers make use of the concept of EPS (earnings per share) in evaluating profitability. EPS is computed by calculating the profit after tax and preference dividend and dividing the same by number of share outstanding. In order to have a fair idea of the profitability in an organization, the EPS for the last few years may be compared. An increasing upward trend is an indication of steady performance whereas a declining tendency is a danger signal for management. The EPS may also be compared with industry EPS and the earnings per share of other similar nature companies."⁵⁷

EBIT-EPS analysis, the decision maker can inspect the impact of alternative financing plans on EPS over a full range to EBIT levels. Next tool of capital structure management is the conclusion of comparative leverage ratios. Balance-sheet leverage ratios and coverage ratios can be computed according to the contractual stipulations of the proposed financial plans.

⁵⁷ Ahmad Nisar, op., cit., P.77.

"One widely used means of examining the effect of leverage is to analyze the relationship between earnings before interest and tax (EBIT) and earnings per share (EPS). Essentially, the method involves the comparison of alternative methods of financing under various assumptions as to EBIT."⁵⁸

"The EBIT-EPS analysis is one important tool in the hand of the financial manager to get an insight into the firm's capital structure management where the financial manager can consider the possible fluctuation in EBIT and examine their impact on EPS under different financial plans. If the profitability of earning a rate of return on the firm's assets less than the cost of debt is insignificant, a large amount of debt can be used by the firm in its capital structure to increase the EPS. This may have a favorable effect on the market value per share. On the other hand, if their profitability of earning a rate of return on the firm's assets less than the cost of debt is very high, the firm should retain from employing debt capital. It may, thus, be computed that the greater the level of EBIT and lower the profitability of downward fluctuation, the more beneficial is to employ debt in the capital structure.

Financial leverage is one of the important considerations in planning the capital structure of a company. The companies with high level of the EBIT can make profitable use of the high degree of leverage to increase return on the shareholder's equity. One common method of examining the impact of leverage is to analyze the relationship between EPS and various possible levels of EBIT under alternative method of financing.

The firm is able to maximize the EPS, when it uses debt financing. Though the rate of preference dividend is equal to her rate of interest, EPS is high in case of debt financing because the interest charges are tax deductible, while

⁵⁸ Van Horne, op., cit., P.285.

preference dividends are not with increasing levels of EBIT, EPS, will increase at a faster rate with a higher degree of leverage. However, if a company is not able to earn a rate of return on its assets higher than the interest rate (or the preference dividend rate), debt (or preference financing) will have adverse impact on EPS.

The effect of financial leverage may be favorable or unfavorable. Positive or favorable, financial leverage occurs when the earnings per share increase due to the use of debt in the capital structure. This happens when the rate of return on the company's assets is more than the cost of debt capital. The financial leverage is, thus, an important tool to increase the EPS. As a result, a company may be tempted to make maximum use of debt in its capital structure. But financial leverage can also lower the EPS. If company's rate of return on assets is lower than the cost of debt capital.

One useful way of examining the financial leverage is to analyze the behavior of EPs with varying levels of EBIT under alternative financing plans.

⁵⁹

Mathematically the indifference point between two methods of financing can be determined as

$$\frac{\text{EBIT}^* - C_1}{S_1} = \frac{\text{EBIT}^* - C_2}{S_2}$$

Where, EBIT* is the EBIT indifference point between the two methods of financing for which, C₁, C₂ are the annual interest expenses or preferred stock dividend on a before-tax basis for financing method 1 & 2, and S₁ & S₂ are the number of shares of common stock to be outstanding after financing for

⁵⁹ Pandey I.M., op., cit., P.206-9.

methods 1 & 2. Therefore, indifference points for financial leverage can be determined either graphically or mathematically.⁶⁰

The EBIT-EPS chart helps to the financial manager that how alternative methods of financing have different impacts on EPS. Insight comes in comparing the indifference point between two financing alternatives, like debt versus common stock financing, with existing and expended level of EBIT. The higher the level of EBIT is in relation to the indifference point, the stronger the case that can be made for debt financing, all other things being the same. The lower the EBIT is in relation to the indifference point the stronger the case is common stock financing. This is particularly true when the indifference point is below the existing level of EBIT. In summary, the greater the level of EBIT and the lower the probability of downside fluctuation, the stronger the case that can be made for the use of debt. The EBIT-EPs analysis gives us insight into the return-risk trade-off that governs valuation.⁶¹

3.1.5.3: Statistical Tools

To evaluate the position of capital structure of a firm, statistical tools plays vital role. By the help of statistical tools, a financial manager can easily observe that the position of capital structure that what is happening? Thus, the statistical tools can be used as supporting tools of financial tools. In this study, to analyze the capital structure of three joint venture banks, the following different statistical tools can be used. They are as follows;

⁶⁰ Van Horne., op., cit., P.287

⁶¹ Ibid P.288.

3.1.5.3.1: Arithmetic Mean

It is also called simply mean, which is used to measure the average value of given observations. The arithmetic mean is the most popular and commonly used statistical average.

"Arithmetic mean of a given set of observations is their sum divided by the number of observations."⁶²

$$\bar{X} = \frac{\sum X}{N}$$

Whereas,

\bar{X} = Arithmetic mean/ the average/ simply mean

$\sum X$ = Sum of the total observation/ sum of values.

N = Number of observation

3.1.5.3.2: Standard Deviation:

The standard deviation is the most important and widely used measure of dispersion or variability. The standard deviation is the square root of the mean square deviation from the arithmetic mean and is denoted by S.D. σ or sigma. The S.D is also called 'root mean-squared deviation'⁶³

The standard deviation, usually denoted by the letter σ (sigma) of the Greek alphabet was first suggested by Karl Pearson as measure of dispersion in 1893. It is defined as the positive square root of the arithmetic mean. Thus if X_1, X_2, \dots, X_n is a set of n observation then its standard deviation is given by

⁶² Gupta S.C (1996), *Fundamental of Statistics*, Himalayan Publishing house India, P.755

⁶³ Shrestha K.N. (2053), *Mathematics and statistics for Management's*, valley publishers 8th ed, KTM Nepal P.112

$$\sigma = \sqrt{\frac{\sum (X - \bar{X})^2}{N}}$$

Whereas,

σ = Standard deviation of the combination

x = observed value

\bar{x} = mean of variance

N = number of observation

Higher the value of S.D. higher the risk and lower the s.d lower the risk for the company.

3.1.5.3.3: Co-efficient of variation:

"The co-efficient of variation (CV) is the relative measure based on the standard deviation and is defined as the ratio of the standard deviation to the mean expressed in percent." ⁶⁴

Standard deviation is only an absolute measure of dispersion, depending upon the units of measurement. The relative measure of dispersion based on standard deviation is called co-efficient of standard deviation and is given by;

Co-efficient of Variation (CV)= S.D/mean

Where, the lower coefficient of variation is preferable to the company and vice-versa.

3.1.5.3.4: Correlation Analysis

The correlation analysis is a statistical tool, which is used to measure the relationship between among or more variables.

⁶⁴ Ibid P.114

"The correlation analysis is a statistical tool, which studies the relationship between two variables and correlation analysis involves various methods and techniques used for studying and measuring the extent of the relationship between the two variables."⁶⁵

"The correlation analysis of the co-variance between two or more variables."⁶⁶

"When the relationship is of a quantitative nature, the appropriate statistical tool for discovering and measuring the relationship and expressing it in a brief formula is known as correlation."⁶⁷

Therefore, correlation is most widely used statistical tool to measure the degree of relationship or association between\among two or more variables. It shows the relationship between dependent and independent variables.

The commonly used methods studying the correlation between two variables are as follows,

- (1) Scattered diagram method
- (2) Karl Pearson's coefficient of correlation method
- (3) Rank method
- (4) Two-way frequency table method
- (5) Concurrent deviation method

Among these above methods, the most widely used method in practice; Karl person's coefficient of correlation method can be used to analyze the date (i.e. position of capital structure of three joint venture banks in this study.)

A mathematical method for measuring the intensity or the magnitude of linear relationship between two variables series was suggested by Karl Pearson

⁶⁵ Gupta S.C. op, cit P.510

⁶⁶ Ibid P.511

⁶⁷ Ibid P.511

(1867-1936) and this method is also called covariance method. Karl Pearson's also known as pearsonian measures correlation coefficient between two variables (series) x & y. Usually, denoted by $r(x,y)$ or r_{xy} or simply r is numerical measure of linear relationship between them and is defined as the ratio of the covariance between x and y, written as $cov(x,y)$ to the product of the standard deviation of x and y

symbolically,

$$r = \frac{Cov. (x,y)}{\sigma_x \sigma_y}$$

Where, r = correlation coefficient

X&Y= Series

σ_x = Standard deviation of x

σ_y = Standard deviation of y

Cov.= Covariance

This formula correlation coefficient can be written as;

$$r = \frac{N \sum XY - \sum X \cdot \sum Y}{\sqrt{[N \sum X^2 - (\sum X)^2][N \sum Y^2 - (\sum Y)^2]}}$$

Where, n = number of pairs of observation

Σ = Summation (total)

Properties of correlation coefficient: - The following are the important properties of correlation coefficient.

The value of correlation coefficient lies between -1 to +1. (i.e. $-1 \leq r \leq +1$)

Correlation coefficient is dimensionless (i.e. the value of r has no unit)

It's formula is symmetrical (i.e. $r_{xy} = r_{yx}$)

It is independent of the change of origin (i.e. $r_{xy} = r_{uv}$)

Where $u = X - A$ & $v = Y - B$ and A & B are assumed means.

It is the geometric mean between two regression coefficients i.e $r = \sqrt{b_{xy} \cdot b_{yx}}$

Interpretations:

If $r = 1$ i.e. there is perfect positive relationship between the two variables.

If $r = -1$, i.e. there is perfect negative relationship between the two variables.

if $r = 0$, i.e there is no correlation at all.

The closer the value of r is to 1 or -1 the closer the relationship between the variables and the closer r is to 0, the less close relationship while estimating the value of one variable from the value of other variable, the higher the value of r , the better the estimates.

3.1.5.3.5: Co-efficient of Determinant

Coefficient of determination between two variables series is a measure of linear relationship between them and indicates the amounts of variation of one variable, which is associated with or is accounted for by the independent variables. In other words, the coefficient of determination gives the ratio of explained variance to the total variance. The coefficient of determination is given by the square of the correlation coefficient, i.e. r^2 . Thus; coefficient of determination can be calculated as under.

$$\text{Coefficient of determination (r}^2\text{)} = \frac{\text{Explained variance}}{\text{Total variance}}$$

The coefficient of correlation is a much useful and better measure for interpreting the value of r.

3.1.5.3.6: Testing of Hypothesis;

The method of statistics, which helps in arriving at the criterion for decision, is called test of hypothesis or hypothesis testing. A hypothesis is an assumption that we make about the population parameter. The test of hypothesis is a process of testing of significance regarding the parameter of the population on the basis of sample drawn from the population. The test of hypothesis discloses the fact whether the difference between the computed statistic and hypothetical parameter is significant.

A statistical assumption or statement, which may or may not be true, about a population or equivalently about the probability distribution characterizing the given population, which we want to test on the basis of the evidence from a random sample. If the hypothesis completely specifies the population, then it is known as a simple hypothesis. If it does not completely specify the population, then it is known as a composite hypothesis.

Thus the hypothesis is an assumption and is used to test whether the assumption is right or not i.e. the testing of hypothesis. The statistical hypothesis may be divided into following types;

(A) Null hypothesis: A statistical hypothesis, which is tested for the purpose of possible acceptance is called a null hypothesis, and suggests that there is no difference between population mean and sample mean i.e. they are same and equal. Null hypothesis which is tested for possible rejection under the assumption that it is true.

Null hypothesis always denoted by H_0 .

(B) Alternative hypothesis: Alternative hypothesis is important to decide that whether the null hypothesis is acceptance or not. Any hypothesis which is complementary to the null hypothesis is called an alternative hypothesis.

It is usually denoted by H_1

(C) Test of significance: A procedure to assess the significance of statistic or difference two independent statistics is known as test of significance.

The commonly used levels of significance are 1% (0.01) and 5% (0.05). If we use 5 cases out of 100 cases we are likely to reject H_0 is correct. The level of significance should be fixed in advance before applying the test.

Thus the main objective of testing of hypothesis is to evaluate the difference between sample statistic and population parameter. Hypothesis is tested in certain percentage of level of significance.

3.1.5.4 Trend Analysis:

A trend is a direction of sequence of events that have some momentum and durability. Trend analysis shows the changes i.e. increasing or decreasing or constant up to some extent of variables of the company over the period of time. And it also forecasts for future guideline of the company.

Trend also called secular or long-term trend, is the basic tendency of a series to grow or decline over a period of time. The concept of trend does not include short-range oscillations, but rather the steady movement over a long time.

"Trend analysis is valuable to compare the financial ratios for a given company overtime. In this way the analyst is able to detect any improvement or deterioration in its financial condition and performance.⁶⁸

"Generally, the figures for the last 3 to 5 years should be considered for better understanding of an economic phenomenon. The trend indicates general tendency or direction of change in which management is more interested, but the fact that a trend is more influenced by the base year figure, should always be borne in mind. The analysis and interpretation will not be fruitful if the base year figure is unusually high or low. Therefore, the selection of base year should be done carefully. It should be the year of normal condition. The trend can be rightly interpreted, if the effect of inflation on different year's figures of money income is neutralized.

"Trend analysis helps in business forecasting and planning the future operations. For example, if the time series for a particular phenomenon exhibits a trend in particular direction, then under the assumption that the same pattern will continue in the near future. Trend analysis is a tool to compare two or more item series over different periods of time and draw important conclusions about them.⁶⁹

Trend analysis of ratios indicates the direction of change. This kind of analysis is particularly applicable to the items of profit and loss account. It is advisable that trends of sales and net income may be studied in the light of two factors; the rate of fixed expansion or secular trend in the growth of the business and the general price level. It might be found in practice that a number of firms would show a persistent growth over a period of years. But to get a true

⁶⁸ James C. Van Horne, (1998), *Fundamental of Financial Management*, Prentice hall of India (P) Ltd. 4th edition P.116

⁶⁹ Gupta S.C., op cit., P.757

trend of growth, the sales figure should be adjusted by a suitable index of general prices. Another method of security trend of growth and one, which can be used instead of the adjusted sales figures or as check on the, is to tabulate and plot the output or physical volume of sales expressed in suitable units of measure. For trend analysis, the use of index numbers is generally advocated. The procedure followed is to assign the number 100 to items of the base year and to calculate percentage changes in each item of other years in relation to the base year. This procedure may be called as "trend percentage method."⁷⁰

The analysis of financial ratios involves two types of comparison. First, the analyst can compare present ratio with past and expected future ratios for the same company. The current ratio (the ratio current assets to current liabilities) for the present year-end could be compared with the current ratio for the preceding year end. When financial ratios are arrayed on a spreadsheet over a period of years; the analyst can study the composition of change and determine whether there has been an improvement or deterioration in the financial condition and performance over time. The second method of comparison involves comparing the ratios of one firm with those of similar firms or with industry averages at the same point in time. Such a comparison gives insight into the relative financial condition. The above mentioned two types of financial ratio also known as trend analysis.⁷¹

Measurement of Trend:

"The following are the four methods which are generally used for the study and measurement of trend components in a time-series."⁷²

⁷⁰ Pandey I.M., op cit., P.529.

⁷¹ James C. Van Horne., op cit., P.692

⁷² Gupta S.C., op cit., P.762-88.

(i) Graphic or free-hand curve fitting method: This is the simplest and the most flexible method of estimating the secular trend and consists in first obtaining a histogram by plotting the time series values on a graph paper and then drawing a free hand smooth curve through these points so that it accurately reflects the long term tendency of the data.

(ii) Method of semi-average- This method is more objective than graphic method. In this method, the whole time series data is classified into two equal parts. For example, if there is given the time series value for 20 years from 1965 to 1984 then the two equal parts will be the data corresponding to periods 1965 to 1969 and 1970 to 1984. However, in case of odd number of year, the two equal parts are obtained on omitting the value from the middle period. Thus, for example, for the data for 10 years from 1970 to 1979 and 1981 to 1990, the value from middle year viz., 1974 and 1985 being omitted. Having divided the given series into two equal parts, then we next compute the arithmetic means are called semi-averages. Then these semi-averages are plotted as points against the middle point of the respective time periods covered by each part.

(iii) Method of curve fitting by the principle of least squares. The principle of least squares provides an analytical or mathematical device to obtain an objective fit to the trend of the given time series. Most of the data relating to economic and business time series conform definite laws of growth or decay and accordingly in such a situation analytical trend fitting will be more reliable for forecasting and predictions. The technique can be used to fit linear as well as non-linear trends.

(iv) Conversion of trend equation - Any trend equation depends on following three factors viz., the origin of time reference, the unit of time viz., yearly,

monthly weekly ect. and the unit of the given values. i.e. the time series value relate to annual figures, monthly figures or monthly averages.

However, by the help of trend analysis, the financial manger can observe the various fluctuation i.e. increasing or decreasing values in the company and can predict the future position or decreasing value in the company and can predict the future position of the company.



CHAPTER-IV

PRESENTATION AND ANALYSIS OF DATA

Data presentation, analysis and interpretation are an important aspect of evaluation of capital structure management. The effort of this chapter has been made to analyze and interpreted the capital structure management of three joint venture banks. Furthermore, this chapter has been tried to provide factual and practical information of three JVBs and on the basic of this chapter conclusion and recommendation can be drawn with easily.

In this chapter, various financial variables have been presented in numerical form, analyzed and interpreted to achieve the financial decisions. For this, various ratio analysis, EBIT-EPS analysis, arithmetic mean, standard deviation, co-efficient of correlation, testing of hypothesis, trend analysis ect have been employed to analyze the position of capital structure management of three JVBs, an a main tools.

The comparative analysis of capital structure management of three JVBs, by using above mentioned tools can be presented, analyzed and interpreted as follows;

4.1 Financial Analysis

This analysis includes various methods and financial tools of analyzing the secondary data collected from various sources like annual journal, reports, financial statement ect. Much effort has been done to have the accurate results for achieving the objectives of the study mentioned in the first unit. It is a major part of analyzing which includes maximum results appropriately which are as follows:-

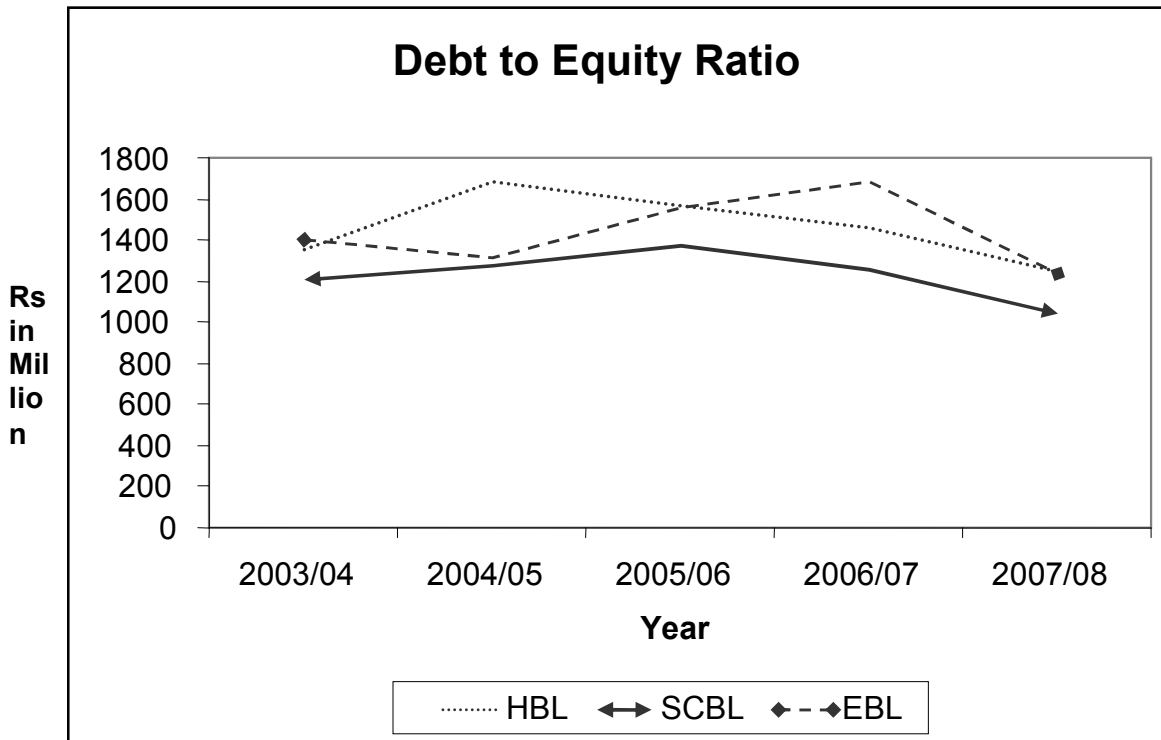
4.1.1 Analysis of Debt to Equity ratio of sample Banks.

The ratio debt-to-equity ratio shows the relationship between total debt i.e. long term debt plus current liabilities and shareholders fund. Only the HBL and SCBL have used both long term debt and current liabilities as a debt capital but EBL has not used the long term debt. In this study, the debt to equity ratio of three JVBs can be presented in the following table

Table No.4.1 Debt to Equity Ratio

Year Bank	2003/04	2004/05	05/06	06/07	07/08	Mean	S.D.	C.V
HBL	1348.65	1678.38	1568.03	1461.57	1243.09	1459.94	154.15	0.10
SCBL	1205.29	1276.48	1368.94	1251.23	1042.52	1228.89	1407.40	0.09
EBL	1397.95	1309.11	1557.57	1683.79	1237.08	1444.30	48.84	0.03

Source:-WWW.nepalstock.com



The average DE ratio of SCBL is 1228.89%. Which represent the lowest among the selected banks. The bank has not been able to maintain its average DE ratio for 03/04 and 07/08. The DE ratio of SCBL ranges between 1042.52%

to 1368.94%. The S.D of bank is 107.40 whereas C.V is 0.09% indicates that there is less fluctuation in DE ratio of SCBL, which is comparatively low than HBL. The DE ratio of EBL ranges between 1273.08% to 1683.79%. The average DE ratio of the bank is 1444.3% which is first lowest among the sample banks. The bank has not been able to maintain its average De ratio in F.Y.2003.04, 04/05 and 07/08. The S.D. of ratio is 48.84% with C.V. of 0.03%. This indicates that there is 0.03 fluctuations in DE ratio of the banks HBL and EBL are engaged in long term debt whereas SCBL is engaged in short term debt of the yearly nature. The average DE ratio of the HBL is the highest and that of SCBL is the lowest under the study period. The C.V of HBL is the highest and the C.V of EBL is lowest. The DE ratio range of the banks under study is between 1042.52% to 1683.79%

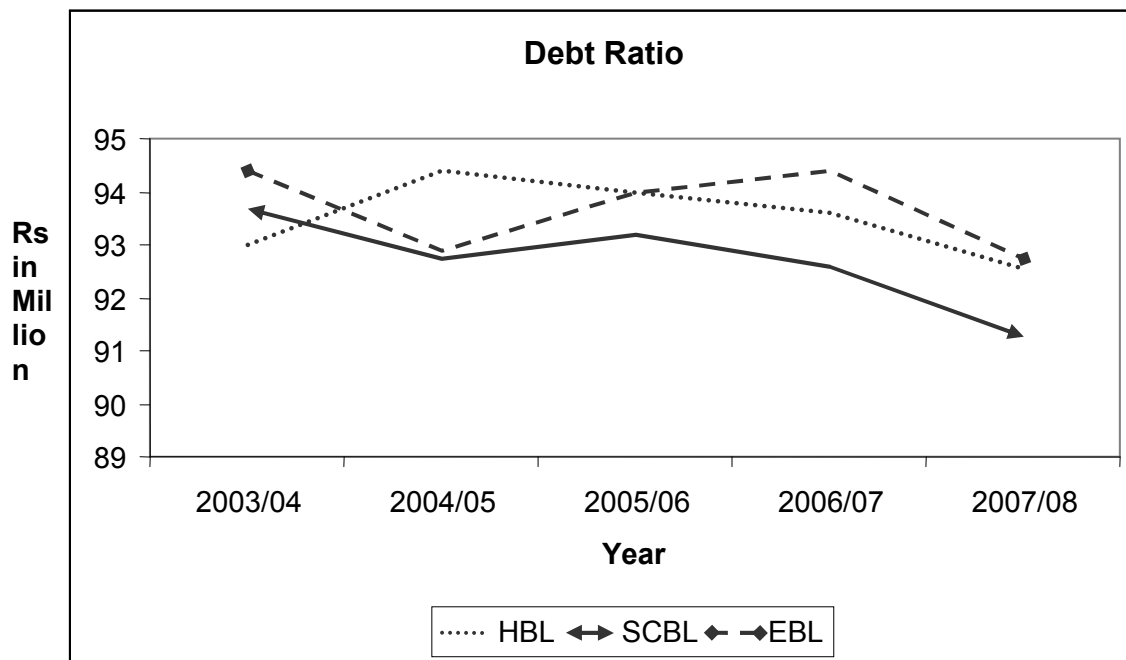
4.1.2 Analysis of Debt Ratio

The debt ratio shows the relationship between total debt. i.e., long term debt + current liabilities and total assets i.e. both current and fixed assets of the company. The debt ratio of three JVBs can be shown from the following table;

Table No.4.2Debt Ratio

Year Bank	2003/04	2004/05	05/06	06/07	07/08	Mean	S.D.	C.V
HBL	93.01	94.38	94	93.6	92.55			
SCBL	93.67	92.74	93.19	92.6	91.25			
EBL	94.38	92.9	93.97	94.39	92.72			

The above table shows that the total asset of HBL financed by debt capital is more than 92% during the study period. It ranges between 92.55% to 94.38%. The average debt ratio is 93.51%, S.D is 0.66% with a C.V of 0.0071 which is comparatively low among the sample banks. The volatile financing by the debt capital is due is the use of short term debt and long term debt also.



The debt ratio of SCBL ranges between 91.25% to 93.67%. The debt financing is higher in the fiscal year 2003/04 and lower in 2007/08. The average ratio is 92.69%. This is comparatively lowest among selected banks. This indicates that 92.69% of total assets are financed by debt capital. The S.D is 0.81% with a C.V of 0.0087% which indicates there is moderate fluctuation of debt ratio of the bank during study period. The debt financing for total assets is only from the use of short term debt.

The Debt ratio of EBL ranges between 92.72% to 94.39%. The maximum is 94.39% in the F.Y.2006/07 and the minimum is 92.72% which indicates that 93.67% of total assets is financed by the debt capital. The S.D. is 0.83% and C.V is 0.0089%. This is highest among the selected bank. This indicates that there is more fluctuation in debt ratio of EBL during the study period.

Above analysis shows that the average debt ratio of EBL is highest which indicates that the use of debt capital to acquire the shares of the total assets is highest for among the selected banks. The long term debt is not used by SCBL.

The S.D and C.V of EBL i.e.0.83 and 0.0089 respectively are highest among the sample banks and indicates that the claim of the outsiders is highest in EBL than other two banks.

4.1.3 Analysis of Debt to Total Capital Ratio

Debt to Capital Ratio is used to measure the relative shares of the debt in total capital of three JVBs. Furthermore, this ratio shows the relationship between total debt and permanent capital including current liabilities. The following table can present debt-to-total capital ratio of three JVBs.

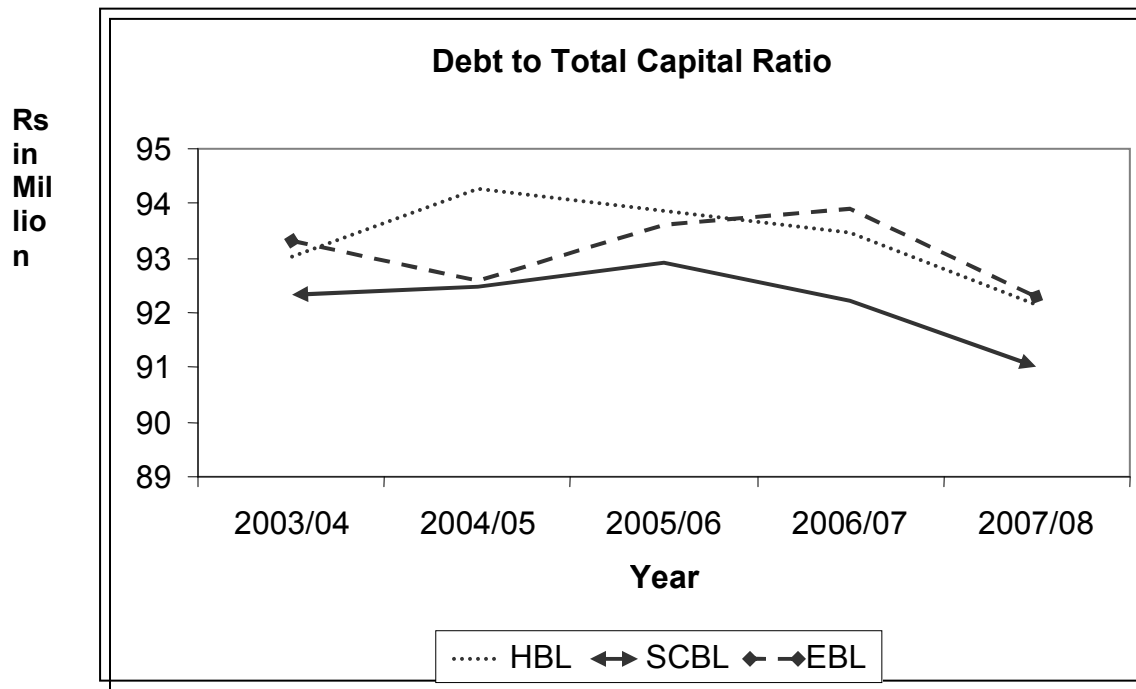
The average ratio of EBL is 93.14%. The EBL has been able to maintain its average ratio in the F.Y.03/04, 05/06 and 06/07 and has failed to maintain in the year 2004/05 and 2007/08. The debt to total capital ratio's S.D. 0.61% with a C.V of 0.0065% which represents the lowest among sample banks.

Table No.4.3
Debt to Total Capital Ratio

Year Bank	2003/04	2004/05	2005/06	2006/07	2007/08	Mean	S.D.	C.V
HBL	93.01	94.26	93.86	93.45	92.13	93.34	0.74	0.0078
SCBL	92.34	92.46	92.93	92.21	91.03	92.19	0.63	0.0068
EBL	93.32	92.59	93.61	93.90	92.30	93.14	0.61	0.0065

Source:- WWW.nepalstock.com

The above table shows that the highest debt to total capital ratio of HBL is 94.26% in the F.Y. 04.05 and the minimum ratio is 92.13% in the F.Y.07/08. Actually, HBL has decreasing trend ratio from F.Y.04/05. The mean ratio is 93.34%. The bank has not been able to maintain its average ratio in the year 03/04 and 07/08. The C.V of debt to total capital ratio is 0.0078.



The highest debt to total capital ratio of SCBL is 92.93% in the F.Y.2005/06 and the minimum is 91.03 in the F.Y.2007/08. The average debt to total capital ratio is 92.19%. The bank has been able to maintain its debt to total capital ratio for the first four years and has ratio is 0.63% with a C.V. of 0.0068. This represents that there is moderate fluctuation in the ratio closing their study period. From the above analysis it is clear that the mean, S.D and C.V of debt to total capital ratio of HBL is highest which indicates that the interest risk due to the use of debt capital is highest as compared to other two banks.

4.1.4 Analysis of Return of Capital Employed Ratios.

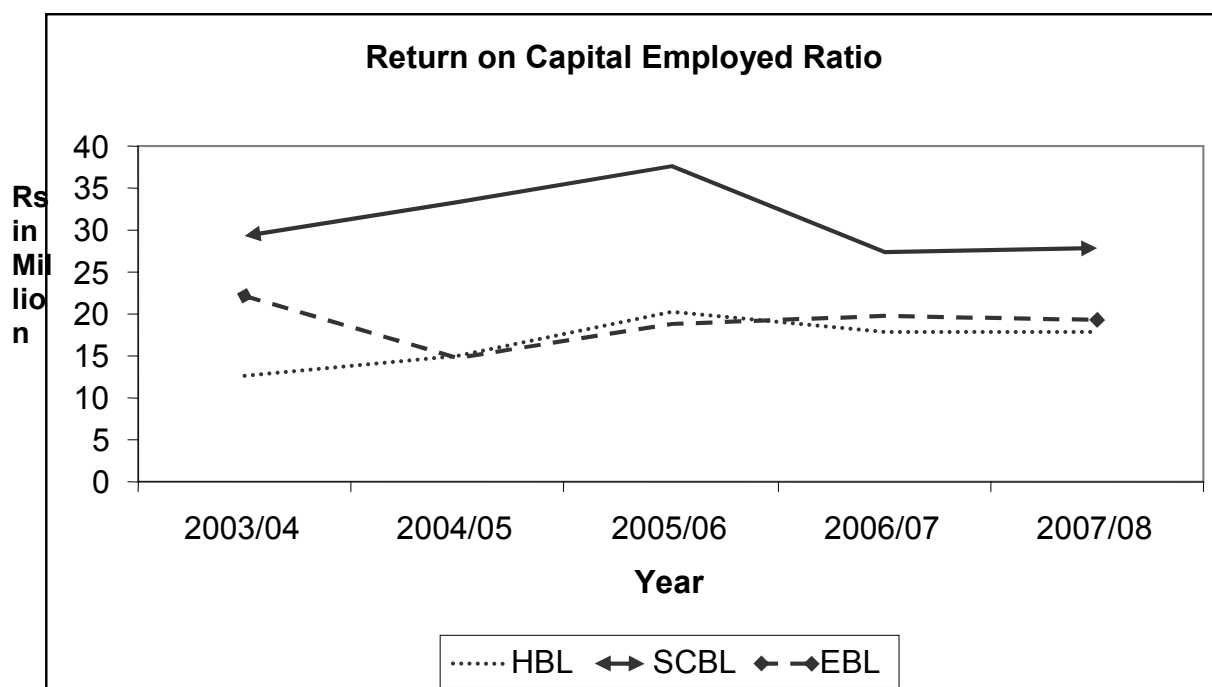
Return on Capital Employed (ROCE) ratio is used to measure the relationship between net profit after tax and capital employed where the capital employed represent the net current assets (i.e.) current assets minus current liabilities and long term assets of the company. The ROCE and long term assets of the company. The ROCE ratio of three JVBs can be shown in the following table;

Table No.4.4
Return on Capital Employed Ratio.

Year Bank	2003/04	2004/05	2005/06	2006/07	2007/08	Mean	S.D.	C.V
HBL	12.72	15.05	20.15	17.93	17.82	16.73	2.58	0.154
SCBL	29.27	33.31	37.56	27.49	27.78	31.08	3.84	0.123
EBL	22.13	14.85	18.79	19.75	19.36	18.98	2.36	0.124

Source:- WWW.nepalstock.com

The ROCE ratio of SCBL ranges between 27.49% in F.Y. 2006/07 and 37.56% in F.Y. 2005/06. The average ratio of SCBL is 31.08% which is the highest among the sample banks. The bank has been able to maintain its average ratio in F.Y.2004/05 and 2005/06 and failure to maintain in other fiscal years. The S.D. of ROCE ratio is 3.84% which is the highest among sample banks with a C.V of 0.123% represents the second highest among the selected banks. This indicates that the risk is increasing.



The highest ROCE ratio of EBL is 22.13% in F.Y. 2003/04 and the minimum ratio is 14.85% in 2004/05. EBL has fluctuating trend ratio. The mean of ROCE ratio is 18.98% which the bank has maintained in F.Y.2003/04, 2006/07 and 2007/08, but has failed to maintain in F.Y. 2004/05 and 2005/06. The S.D is 2.36 which is lowest among sample banks with a C.V of 0.124. This indicates that the level of risk is minimum.

From the above analysis, the average ROCE ratio of SCBL is highest among the selected banks which indicate that the SCBL has been efficiently utilizing its resources provided by its owners and creditors.

4.1.5 Analysis of Return on Assets Ratio

Return of Assets (ROA) ratio is used to measure the productivity of assets employed by a company. The ROA establishes the relationship between net profit after taxes of total assets of three JVBs. Total assets included both current assets and fixed assets. The following table shows the ROA of three JVBs.

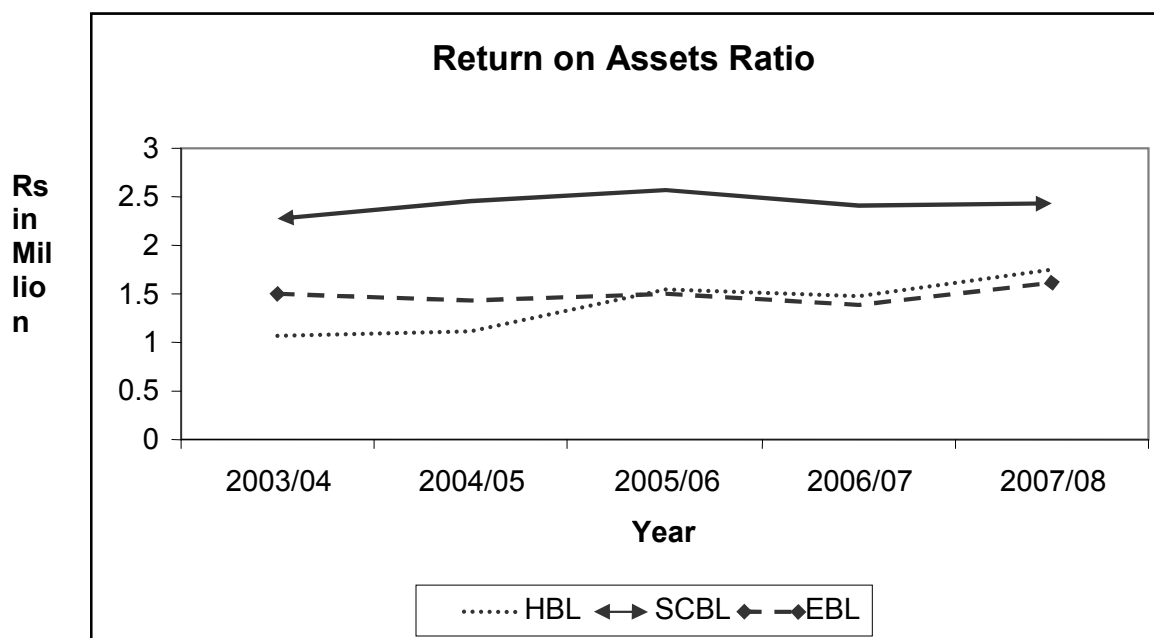
The ROA ratio of HBL lies in the range of 1.06% to 1.74%. The maximum ROA of the bank is 1.74% in the F.Y 2007/08. Whereas the minimum ROA is 1.06% in the F.Y.2003/04. The average ROA of the bank is 1.38% which is the lowest among the selected banks. The bank has been able to maintain above its average ratio in later 3 years but it has been unable in earlier 2 years. The S.D of ratio is 0.26% whereas C.V is 0.19% which indicates comparatively large fluctuation in ROA among the selected banks. The ROA ratio of SCBL ranges between 2.26% to 2.56%. The average ROA of SCBL is 2.43% which is highest among the selected banks. The bank has been able to maintain its average ROA in F.Y.2004/05 and 2007/08 and failed in F.Y. 2003/04 and 2006/07 to maintain its average ROA. The S.D of ROA is 0.09% with a C.V of 0.04%.

Table No.4.5
Return of Assets Ratio

Year Bank	2003/04	2004/05	2005/06	2006/07	2007/08	Mean	S.D.	C.V
HBL	1.06	1.12	1.55	1.47	1.74	1.388	0.26	0.19
SCBL	2.28	2.46	2.56	2.42	2.43	2.43	0.09	0.04
EBL	1.49	1.43	1.49	1.38	1.62	1.48	0.08	0.05

Source:- WWW.nepalstock.com

The ROA ratio of HBL lies in the range of 1.06% to 1.74%. The maximum ROA of the bank is 1.74% in the F.Y 2007/08. Whereas the minimum ROA is 1.06% in the F.Y.2003/04. The average ROA of the bank is 1.38% which is the lowest among the selected banks. The bank has been able to maintain above its average ratio in later 3 years but it has been unable in earlier 2 years. The S.D of ratio is 0.26% whereas C.V is 0.19% which indicates comparatively large fluctuation in ROA among the selected banks. The ROA ratio of SCBL ranges between 2.26% to 2.56%. The average ROA of SCBL is 2.43% which is highest among the selected banks. The bank has been able to maintain its average ROA in F.Y.2004/05 and 2007/08 and failed in F.Y. 2003/04 and 2006/07 to maintain its average ROA. The S.D of ROA is 0.09% with a C.V of 0.04%.



The ROA ratio of EBL is highest in the F.Y. 2007/08 i.e., 1.62% and lowest in the F.Y.2006/07 i.e. 1.38%. The average ROA ratio is 1.48% which is maintained by the bank in the F.Y. 2003/04,2005/06 and 2007/08 but not maintained in the F.Y. 2004/05 and 2006/07. The S.D is 0.08% with a C.V of 0.05%.

The above analysis shown that the average ROA of SCBL is the highest and that of HBL is the lowest among the study period. This implies that the return from total assets of SCBL is highest and that of HBL is lowest.

4.1.6 Analysis of Return on Shareholder Equity

ROSE is another summary measurement of company's performance. ROSE compares net profit to the equity that shareholders have in the company. It determines the sum of return in percentage according to their investment. The high ROSE often reflects the firm's acceptance of strong investment opportunity and effective management and a lower ROSE reflects the firm's acceptance of weak investment opportunities an inefficient management which is calculated as follows;

Table No. 4.6Return on Shareholders equity

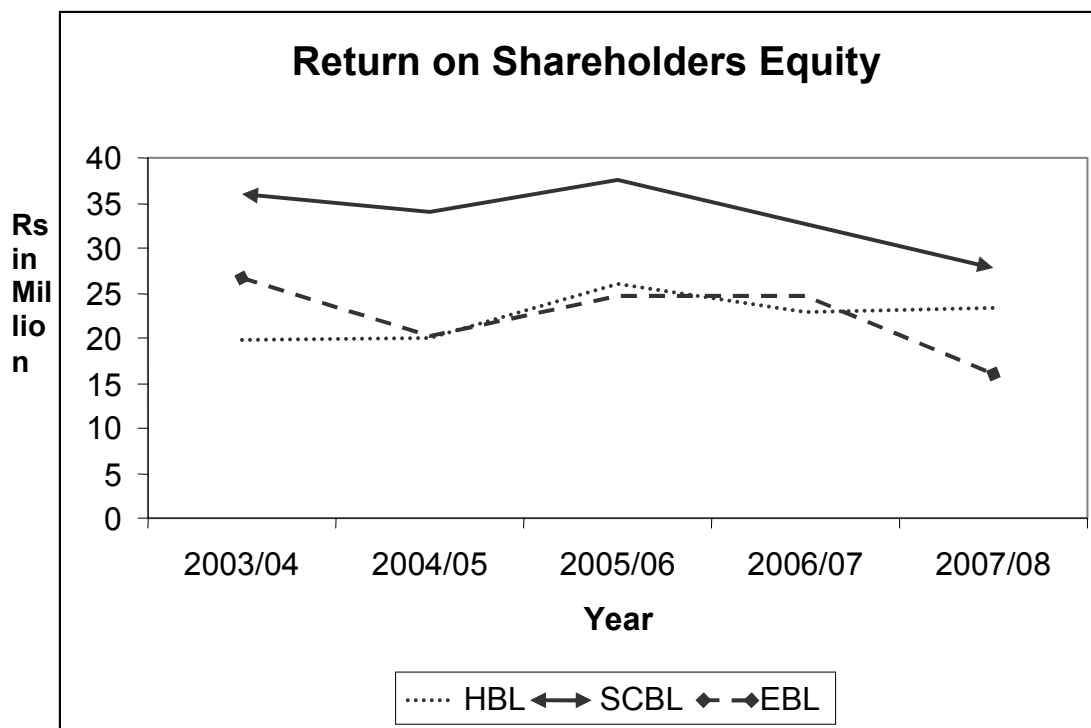
Year Bank	2003/04	2004/05	2005/06	2006/07	2007/08	Mean	S.D.	C.V
HBL	19.87	20.00	25.90	22.91	23.35	22.41	2.26	0.10
SCBL	35.96	33.89	37.56	32.68	27.78	33.57	3.34	0.09
EBL	26.57	20.20	24.65	24.67	15.93	22.40	3.85	0.17

Source:- WWW.nepalstock.com

The ROSE of SCBL ranges between 27.78% to 37.56%. The maximum ROSE of the bank is 37.56% in F.Y.2005/06 whereas the minimum ROSE is 27.78% in the F.Y.2007/08. The average ROSE is 33.57%. The bank has been

able to maintain above its average ROSE for the first three years and failed to maintain in later two years during the study period. The S.D of ROSE is 3.34% and C.V is 0.90.

The ROSE of EBL ranges between 15.93% to 26.57%. The maximum ROSE is 26.57% in the F.Y.2003/04 and minimum is 15.93% in the F.Y. 2007/08. The average of ROSE is 22.40%. The bank has maintained its average ROSE ratio in the F.Y.2003/04,2005/06 and 2006/07 but failure to maintain in 2004/05 and 2007/08. The S.D of ROSE is 3.85% with a C.V of 0.17.



From the above analysis, it shows that average ROSE of SCBL is the highest i.e. 33.57%, and that of EBL is the lowest i.e.22.40%. The SCBL has provided satisfactory level of ROSE over the study period. The C.V of ROSE of EBL is highest and that of SCBL is lowest. This indicates that the ROSE of SCBL is more consistent and that of EBL is less. The ROSE of HBL is in moderate level of consistency. Hence, Rose analysis shows SCBL as a better bank than other over the study period.

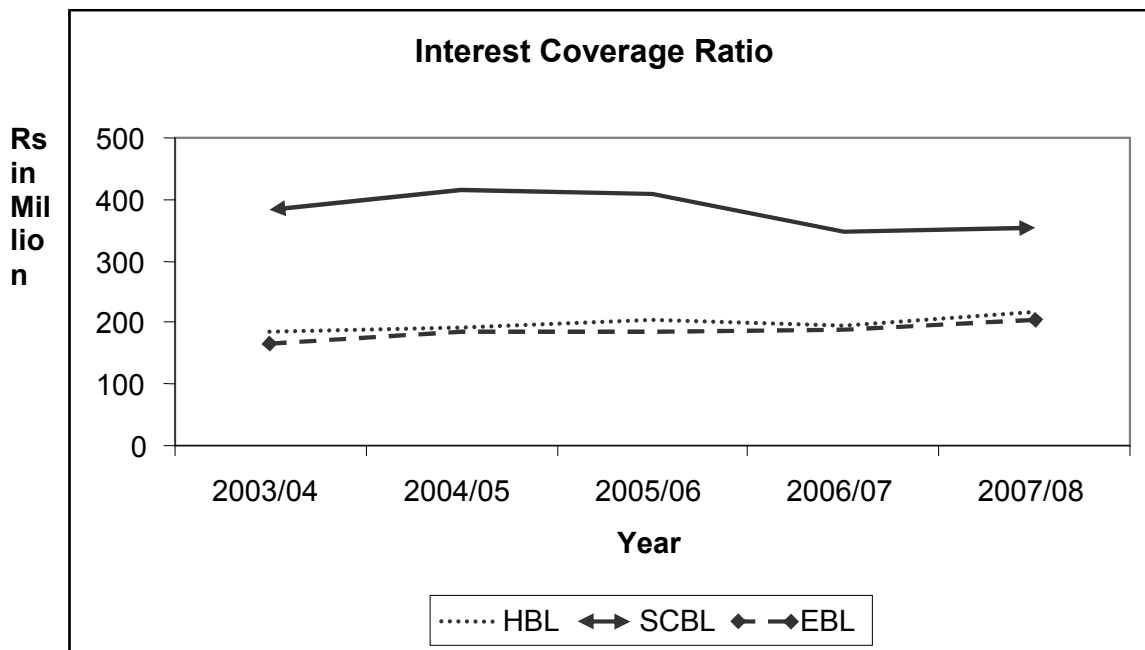
4.1.7 Analysis of the Interest Coverage Ratio (ICR)

To analyse the internal power of the company, the interest coverage is one of the major instruments which measure the debt serving capacity of the financial firm. It shows how many times the interest charge is covered by EBIT out of which they will be paid. It must be greater than 1 and becomes good if it is greater. It is shown in the following table;

Table NO. 4.7
Interest Coverage Ratio

Year Bank	2003/04	2004/05	2005/06	2006/07	2007/08	Mean	S.D.	C.V
HBL	185.56	192.99	203.63	193.48	215.97	198.33	10.53	0.053
SCBL	384.18	414.07	409.82	345.99	352.98	381.41	28.09	0.074
EBL	167.14	184.36	186.10	187.92	203.87	185.88	11.67	0.062

Source: WWW.nepalstock.com



The ICR of HBL ranges between 185.56% to 215.97%. The maximum ICR of the bank is 215.97% in F.Y.2007/08 whereas the minimum ICR of the bank is 185.56% in F.Y. 2003/04. The average ICR, of the bank is 198.33%. The

bank has been able to maintain its average ICR in F.Y.2005/06 and 2007/08 but it is failure to maintain its average ICR in 2003/04, 2004/05 and 2006/07. The S.D of HBL is 10.53% and C.V is 0.053% which reflects that the bank has comparatively strong power interest payment but is fluctuating every year.

The ICR of SCBL is also in fluctuating trend. The ICR of SCBL ranges between 345.99% to 414.07%. The maximum ICR of the bank is 414.07% in F.Y. 2004/05 whereas the minimum ICR of the bank is 345.99% in F.Y. 2006/07. The average ICR of the bank is 381.41%. The bank has been able to maintain its average ICR for the first three years and failed to maintain its average in later two years of the study period. The S.D of the bank is 28.09% and C.V. is 0.074 which is highest among sample banks. This indicates a strong power of interest payment by the bank

So, on the ICR of EBL ranges between 167.14% to 203.87%. The maximum ICR of the bank is 203.87% in the 2007/08 whereas minimum is 167.14% in the year 2003/04. The average ICR of the bank 185.88%. This is maintained in only last three years of the study period by the bank. The S.D of the bank is 11.67% with a C.V of 0.062. The ICR of EBL is in increasing trend

From the above analysis, it shows that the average ICR of SCBL is the highest i.e. 381.41% and that of EBL is the lowest i.e.185.88%. The ICR shows the power of interest payment of company. The S.D and C.V of SCBL is highest among the sample banks very high ration may imply unused debt capacity of the firm and a low ratio is danger signal that the firm is using excessive debt and doesn't have the ability to offer assured payment of interest to the creditor.

4.1.8 Analysis of Price Earning Ratio (PE Ratio)

This ratio is closely related to earning yield which measures investors' expectation and market appraisal of the performance of the firm. Its general rule is that the higher PE multiple is better for owner and it is used to assess firms performance which is shown in following table

Table No.4.8
Price Earnings Ratio

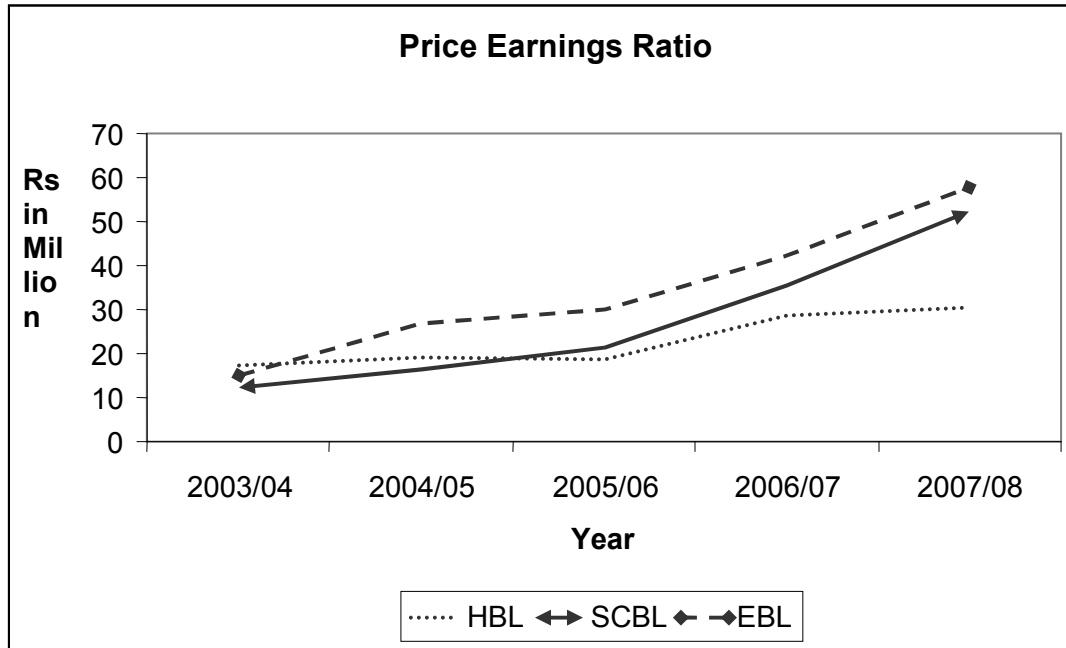
<div>Year Bank</div>	2003/04	2004/05	2005/06	2006/07	2007/08	Mean	S.D.	C.V
HBL	17.12	19.20	18.57	28.69	30.67	22.85	5.65	0.25
SCBL	12.16	16.38	21.47	35.25	52.06	27.46	14.55	0.55
EBL	14.92	26.79	30.10	42.47	57.85	34.43	14.63	0.43

Source:-*WWW.nepalstock.com*

The P/E ratio is HBL ranges between 17.12 times to 30.67 times being paid for each rupee of earning of HBL during the study period. The average P/E ratio of HBL is 22.85 times, which implies that the price paid in average Rs 22.85 of each rupee of earning of HBL over the five years period. The bank has not been able to maintain its average P/E ratio over the study period, except in F.Y. 2006/07. But if we observe closely the yearly P/E ratio is almost close near about average P/E ratio of HBL over the study period. The S.D of P/E ratio is 5.65 with 0.52 of C.V which reflects that the bank has comparatively lowest fluctuation P/E ratio during the study period.

The P/E ratio of SCBL ranges between 12.16 to 52.06 times. The highest P/E ratio of SCBL found be in 2007/08 i.e. 52.06 times and that of lowest in 2003/04 respectively i.e. 12.16 times the average P/E ratio of SCBL is 27.46 times which indicates that the price paid in average of Rs 27.46 each rupee of earning of SCBL during the study period. The bank has maintained its average P/E ratio for the last two years during the study period i.e. on F.Y. 2006/07 and

2007/08 and failed to maintain in previous three years. The S.D of P/E ratio is 14.55 whereas the C.V of P/E ratio is 0.53 which indicates that the bank has large fluctuation compared to other sample banks during the study period.



The P/E ratio during the study period is in increasing trend. The P/E ratio of EBL ranges from 14.92 to 57.85 times. The highest P/E ratio i.e. 57.85 times in F.Y. 2007/08 and the lowest P/E ratio is 14.92 times is in F.Y. 2003/04. The average P/E ratio is 34.43 times. Which bank has maintained for previous three years during the study period. The bank has S.D of 14.63% with a C.V of 0.43, which indicates the bank has less fluctuation in P/E ratio.

From the above analysis, the average P/E ratio of EBL is the highest among the three banks and that of HBL is lowest. The C.V of P/E ratio of EBL is highest and that of HBL is the lowest among the sample banks in the study period. This indicates that there is greater confidence of investor in EBL future and that of lower in the HBL future.

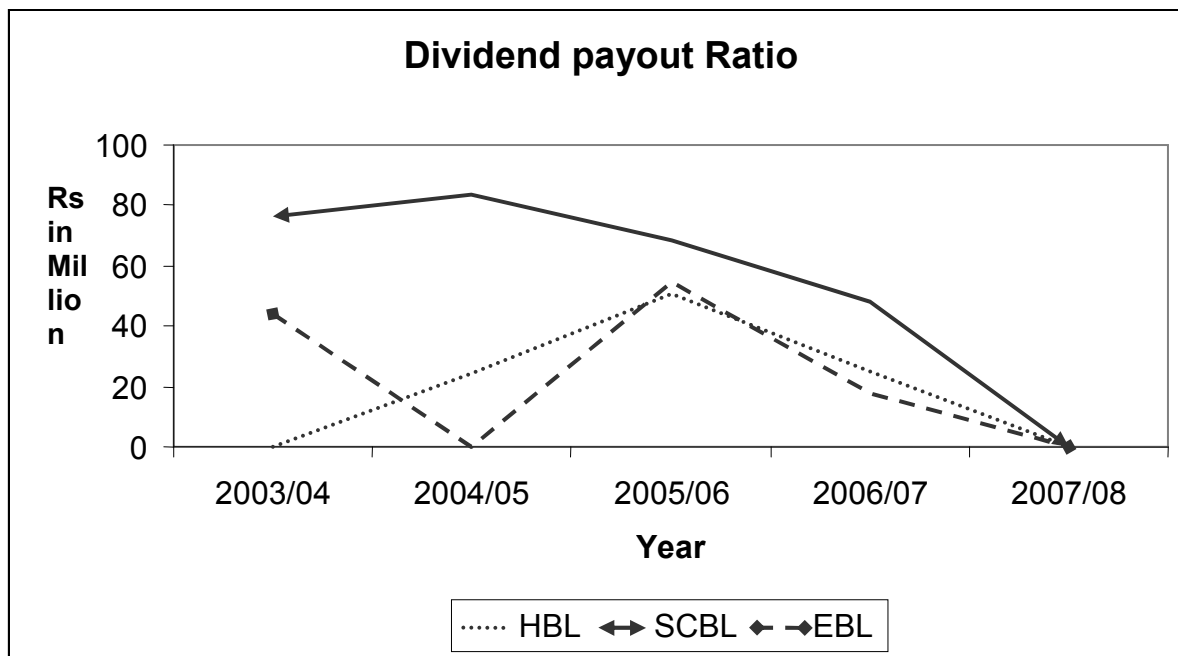
4.1.9 Analysis of Dividend Payout Ratio

The dividend payout ratio measures the relationship between the EPS and dividend paid to them. It shows the percentage between the net profit after tax and preference dividend and dividend paid to the equity shareholders. It is calculated as follows:-

Table No. 4.9 Dividend Payout Ratio = $\frac{DPS}{EPS}$

Year Bank	2003/04	2004/05	2005/06	2006/07	2007/08	Mean	S.D.	C.V
HBL	0	24.17	50.64	24.73	0	19.91	18.86	0.95
SCBL	76.63	83.83	68.24	47.80	0	55.3	30.17	0.55
EBL	43.88	0	54.57	17.48	0	23.17		0.97

Source:- WWW.nepalstock.com



Dividend payout ratio of SCBL is in the range between 0% to 83.83%. The ratio is maximum in the F.Y. 04/058 and minimum in the F.Y 07/08. The average of this ratio is 53.3%. The bank has maintained its dividend payout ratio for previous 3 years and failed to maintain it for the last 2 years during the

study period. The S.D of ratio is 30.17% with a C.V of 0.55 which shows that there is 0.55% fluctuation in DPR of the bank over the study periods.

The average payout ratio of EBL is 23.17%. The yearly DPR of EBL lies within the range of 0% to 54.57%. The bank has not paid any dividend in the year 04/05 and 07/08. The S.D of DPR is 22.43% and C.V of DPR is 0.97.

To sum up, D/P ratio trend indicates that the banks are not following constant dividend payout ratio. D/P ratio of SCBL to common shareholders is much more better than that of other two banks.

4.1.10 Analysis of Earning Per Share of Sample Banks

Earning per share reflects the rupee amount earned per share of common stock outstanding. In other words, it measures the profit available to the ordinary shareholders on share basis. EPS measures the efficiency of a firm in relative terms. It is a widely used ratio. The higher earning indicates the better achievement in terms of profitability of the banks by mobilizing their funds and vice-versa. EPS is the signal of financial strength and weakness of the bank. It is calculated by dividing total earnings available to common stock holders by number of common share outstanding.

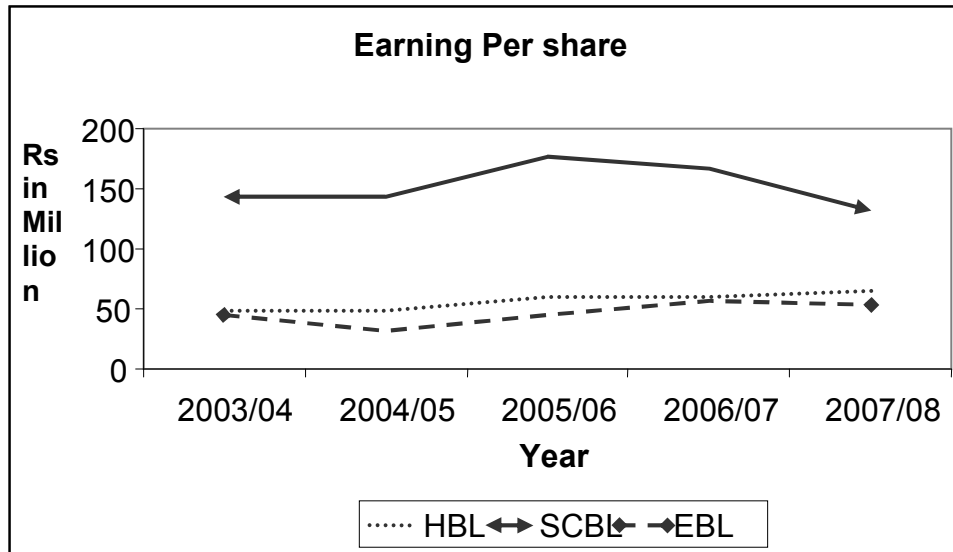
The following table shows the detail relating to EPS.

Table No.4.10
Earning Per Share

Year Bank	2003/04	2004/05	2005/06	2006/07	2007/08	Mean	S.D.	C.V
HBL	49.05	47.91	59.24	60.66	64.57	56.29	6.62	0.12
SCBL	143.55	143.14	175.84	167.37	131.18	152.22	16.66	0.11
EBL	45.58	32.47	45.81	57.22	54.14	47.04	8.60	0.18

Source:-*WWW.nepalstock.com*

The Yearly EPS of HBL was Rs49.05 in F.Y. 03/04, and increases to Rs64.57 in F.Y. 07/08. The EPS is in increasing trend during the study period. The average EPS of HBL is Rs.56.29. The bank has maintained its average EPS for the last three years but bank has unable to maintain its average EPS for the first two years. The S.D of EPs is 6.62% and the C.V of the bank is 0.12 which indicates 12% fluctuation in EPS of EBL.



The EPS of SCBL ranges between Rs131.18 to Rs175.84. The maximum EPs of SCBL i.e. 175.84 is in F.Y. 05/06 and the minimum EPS is Rs131.18 in F.Y. 07/08. SCBL has the highest average EPS of Rs152.22 among the selected banks. The bank has maintained its EPS in the F.Y. 05/06 and average EPS for the F.Y. 03/04,04/05 and 07/08. The S.D of EPS of the SCBL is 16.66% with a C.V of 0.11 which indicates that there is a low fluctuation of 11% in the EPS of SCBL over the study period.

The EBL has minimum EPS of Rs32.47 in the F.Y. 04/05 and maximum EPS Rs57.22 in the F.Y.06/07. The average EPs of the bank is Rs47.04. The bank has been able to maintain its average EPS for the last two years and unable to maintain its average EPS for the first three years during the study period. The

S.D of the EPS is 8.60% with a C.V of 0.18. The C.V indicates that there is 18% fluctuation in the EPS of EBL during the study period which is highest among the selected banks.

From the above analysis, comparing overall performance of the banks among the selected for the study in respect to EPS, it can be seen that the average EPS of SCBL is the highest among the selected banks and that of EBL is the lowest. It indicates that SCBL has been able to generate more earnings with best performance and also been able to utilize its fund properly. So, SCBL is in the strong position in stock market and HBL & EBL are in moderate position.

4.1.11 Leverage Ratio or EBIT-EPS Analysis

Leverage Ratio is considered as an important tool for company's capital structure management, where the financial manager seeks to compare the various alternative methods of financing under different assumptions. IT is widely used methods to determine the appropriate level of debt.

Keeping in view the primary objective of financial management of maximizing the market value of the firm, the EBIT-EPS analysis should be considered logically as the first step in the direction of designing the firm's capital structure. This analysis is useful for two reasons, first the EPS is a measure of firm's performance (given the P/E ratio, the large EPS, the large would be the firm's share), second given the importance if EPS under various financing alternatives at different levels of EBIT, the EBIT-EPS analysis information can be extremely useful to the financing manager in arriving appropriate financing decision.⁷³

⁷³ Khan My & Jain PK, op cit., P.518.

Generally, different sources of capital can be divided into two parts as owner's capital and loan capital, where the company has a legal binding to pay interest on debt. The rate of preference dividend is also fixed, but paid only when the company earns profit. The common shareholders are entitled to the residual income. Financial leverage at once provides the potentials of increasing the shareholder's earning as well as creating the risk of loss to them. It suggests consideration of pertinent variables, the lower the interest rate, greater will be the profit and the less the chance of loss, the less the amount of borrowed the lower will be the profit or loss also, the greater the borrowing the greater the risk of unprofitable leverage and the greater the chance of gain.⁷⁴

Leverage can be categorized into three parts, operating leverage, financial leverage, and combined leverage. Operating leverage in the function of fixed cost, contribution margin and sales volume, financial leverage is the relationship between EBIT and EPS and combined leverage is the combined effect of operating leverage shows the impact of change sale on operating income and financial leverage exists when the capital structure of the firm includes debt capital. So, the financial leverage is the relevant issue in this study. Therefore only about the financial leverage is explained in this chapter.

4.1.11.1 Degree of Financial Leverage

The financial leverage affects earning after taxes and interest, which is available to common shareholders. The financial leverage is defined as the percentage change in available to common shareholders due to given change in earnings before interest and taxes.⁷⁵

⁷⁴ Pandey I.M, op cit., P.204-5.

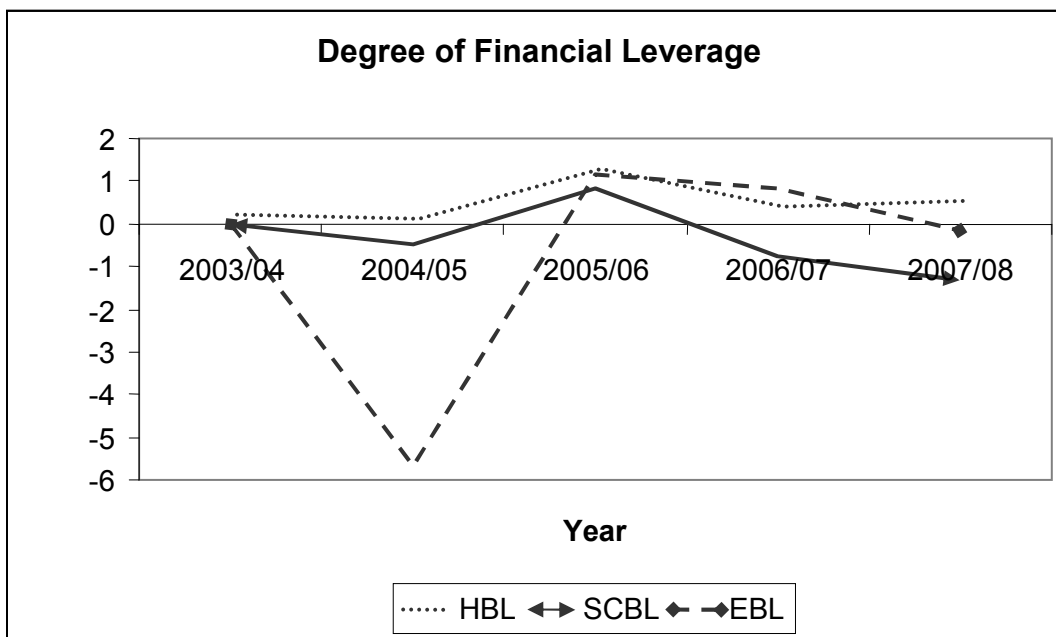
⁷⁵ Pandey I.M, op cit., P.204-5.

“ A ratio between the percentage of change on EPS and EBIT is known as financial leverage”⁷⁶ It can be calculated by using the following formula

$$DFL = \frac{\% \text{ Change in EPS}}{\% \text{ Change in EBIT}}$$

Table No. 4.11.1 Degree of Financial Leverage Ratio

Year Bank	2003/04	2004/05	2005/06	2006/07	2007/08	Mean	S.D.	C.V
HBL	0	-0.12	1.08	0.19	0.33	0.37	0.40	1.08
SCBL	0	-0.46	0.83	-0.75	-1.31	-0.42	0.70	-1.66
EBL	0	-5.65	1.17	0.83	-0.16	-0.95	2.46	-2.59



The average DFL of HBL (0.37). The bank has negative DEL i.e. -0.12 in F.Y. 04/05. The bank has positive DFL of 1.08 in F.Y. 05/06, 0.19 in F.Y 06/07 and 0.37 in F.Y07/08. The S.D of DFL is 0.40 with a C.V of (1.08).

The average DFL of SCBL (-0.42). The bank has negative DEL i.e. -0.40 in F.Y. 04/05, -0.75 in F.Y.06/07 and -1.31 in F.Y 07/08. The bank has positive DFL of 0.83 only in F.Y. 05/06. The S.D of DFL is 0.70 with a C.V of (-1.66).

⁷⁶ Pandey I.M, op cit., P.204-5.

The average DFL of EBL is also negative i.e., -0.95. The bank has negative DFL i.e. -5.65 in F.Y 04/05 and -0.16 in F.Y. 07/08. The bank has positive DFL 1.17 in F.Y. 2005/06 and 0.83 in F.Y 2006/07. The S.D of DFL is 2.46 and C.V of DFL is -2.59.

From the above analysis, the average DFL of HBL is highest among the selected banks. The C.V of HBL is highest which indicates that there is high financial risk among the sample banks during the study period. The average DFL of SCBL and EBL is negative. All banks have negative DFL in various fiscal years which indicates that there is the need of the change in capital structure for the banks for the efficient and effective use of debt capital.

4.2 Coefficient of Correlation Analysis

Correlation analysis is the statistical tool that can be used to describe the degree to which one variable is linearly related to other variable. It is denoted by 'r'.

In other words, correlation is the relationship between two or more variables where only one variable is dependent and more variables is independent. In this study, the Karl Pearson's co-efficient of correlation method is used. Coefficient of correlation between total debt and shareholders equity, total debt and total assets, total assets and net profit, total debt and net profit are analysed. The following table shows the correlation coefficient and probable error (PE) of above explained variables:-

4.2.1 Analysis of the relationship between total assets and Net Profit

The following tables shows the correlation coefficient between total debt and Net profit

Table 4.12

Correlation coefficient Between TA & NPAT

Banks	r	Relationship	r ²	t-value	Remarks at 5%
HBL	0.9729	Positive	0.9465	7.0006	Significant
SCBL	0.9772	Positive	0.39549	8.4872	Significant
EBL	0.9883	Positive	0.9767	12.2484	Significant

Source :- From Appendix -II & V

Tabulated Value of $t_{0.05,(3)}$ is 3.182

The above table reveals that the correlation coefficient between TA & NPAT of sample banks. The correlation coefficient between respective banks is 0.9729, 0.9772 and 0.9883 respectively. The highest positive correlation is found for EBL and lowest in HBL. Positive correlation for the sample banks implies that when TA increase NPAT also increases and vice-versa. Whereas the perfectly positive correlation i.e. (+1) indicates that the NPAT is fully depend on the amount of total assets.

The coefficient of determination (r^2) between Ta & NPAT of respective banks are 0.9465, 0.9549 and 0.9767. This describe that variation in independent variable (NPAT) explains 94.65%, 95.49% & 97.67% of variation in total assets and remaining is due to the effect of other factors in cases of HBL, SCBL & EBL respectively.

From the above table it can be observed that the computed t-value of co-efficient of co-relation (r) between total assets and net profit of HBL, SCBL & EBL are greater than the tabulated value (3.182) at the 5% level of significance for two tailed. Therefore the null hypothesis (H_0) is rejected for the three sample banks i.e, alternative hypothesis (H_1) is selected. This implies that there is statistically significant relationship between TA & NPAT in the high majority of Nepalese commercial banks.

4.2.2 Analysis of the Relationship between costs of service and net Profit

The following table shows the correlation coefficient between cost of service and Net Profit

Table 4.13

Correlation coefficient Between Cost of Service and Net profit

Banks	r	Relationship	r^2	t-value	Remarks at 5%
HBL	0.9673	Positive	0.9357	6.7018	Significant
SCBL	0.9573	Positive	0.9164	5.7177	Significant
EBL	0.4456	Positive	0.1986	0.8576	Significant

Source :- From Appendix- II & V

Tabulated Value of $t_{0.05(3)}$ is 3.182.

The correlation coefficient between cost of service and net profit of HBL, SCBL & EBL are 0.9673, 0.9573 & 0.4456 respectively. The highest positive correlation is found for EBL. There is positive correlation for all bank. It implies that when the cost of service increases net profit also increases and vice-versa.

The coefficient of determination (r^2) between cost of service and net profit of respective banks are 0.9357, 0.9164 & 0.1986 respectively. This indicates that the 93.57% and 91.64% & 19.86% of total variation in cost of service and remaining is due to the effect of other factors.

From the above analysis, it can be observed that the computed t-value of the correlation coefficient (r) between cost of service and net profit of HBL & SCBL are higher than the tabulated value (3.182) at the 5% except the EBL whose calculated t-value is lower than the tabulated value. Therefore, the null hypothesis (h_0) is accepted for EBL and rejected for SCBL & HBL. This implies that there is statistically significantly correlation between cost of service and net profit in the high majority of Nepalese commercial banks.

4.2.3 Analysis of the Relationship between Total Debt and Shareholders Equity

The following table shows the correlation coefficient between total debt and shareholders equity

Table 4.14

Correlation coefficient between Total Debt & Shareholders Equity

Banks	r	Relationship	r ²	t-value	Remarks at 5%
HBL	0.9104	Positive	0.8288	3.8461	Significant
SCBL	0.9497	Positive	0.9019	5.3064	Significant
EBL	0.9543	Positive	0.9107	5.5098	Significant

Source :- From Appendix -II & V

Tabulated value of $t_{0.05(3)}$ is 3.182

It is clear from the above correlation figures that the relationship between total debt and shareholders equity of sample banks are positively correlated. The correlation coefficients between respective banks are 0.9104, 0.9497 & 0.9543. It indicates that there is strong and reliable positive correlation between these two sources of capital is also increasing and vice-versa. The highest positive correlation is observed fro EBL i.e. 0.9543 which indicates that the trend of increase in shareholders equity is along with the increase in total debt by 95.43% and vice-versa.

The coefficient of determination (r^2) between total debt and shareholder's equity of HBL, SCBL and EBL is 0.8288, 0.9019 and 0.9107 respectively. It means that 82.88%, 90.19% % 91.07% of total variation in shareholders equity has been explained by the variation in total debt and remaining is the effect of other factors.

From the above table it can be observed that the computed t-values of coefficient of correlation between total debt and shareholder's equity of all the

concerned banks are higher than that the tabulated value (3.182) at 5% level of significance for two tailed. Therefore, the Null hypothesis (H_0) is rejected and an alternative hypothesis (H_1) is selected. This implies that there is statistically significant relationship between total debt and shareholder equity in the high majority of Nepalese commercial banks.

4.2.4 Analysis of Relationship between Total Debt and Interest Expenses.

The following table shows the correlation coefficient between total debt and Interest expenses.

Table 4.15
Correlation Coefficient between total debt and Interest Expenses

Banks	r	Relationship	r^2	t-value	Remarks at 5%
HBL	0.9891	Positive	0.9783	11.4214	Significant
SCBL	0.9743	Positive	0.9493	7.3373	Significant
EBL	0.9909	Positive	0.9819	13.2026	Significant

Source:- From Appendix II & V

Tabulated Value of $t_{0.05(3)}$ is 3.182

The above table reveals that the correlation coefficient between total debt and interest expenses of sample banks. The correlation coefficients between respective banks are 0.9891, 0.9743 and 0.9909 respectively. All the banks have positive correlation which implies that when the total debt increases interest expenses also increases and vice-versa.

The coefficient of determination (r^2) between total debt and interest expenses of HBL, SCBL & EBL are 0.9782, 0.9493 & 0.9819 respectively. It implies that 97.83%, 94.93% and 98.19% of total variation in interest expenses

amount has been explained by the variation in total debt and remain in is the effect of other factors.

From the above table it can be observed that the computed t-value of coefficient of correlation (r) between total debt and interest expenses of HBL, SCBL & EBL are greater than the tabulated value (3.182) at 5% level of significance (H_0) is rejected for the sample banks. This implies that there is statistically significant relationship between total debt and interest expense in the high majority of Nepalese Commercial Banks.

4.2.5 Analysis of the Relationship between shareholders equity (ROSE) & Earning per Share (EPS)

The following table shows the correlation coefficient between ROSE & EPS.

Table 4.16
Correlation Coefficient Between ROSE & EPS

Banks	r	Relationship	r^2	t-value	Remarks at 5%
HBL	0.7863	Positive	0.6183	2.0790	Insignificant
SCBL	0.6416	Positive	0.4117	1.4489	Insignificant
EBL	0.0022	Positive	0.0001	0.00381	Insignificant

Source :- From Appendix -II & V

Tabulated value of t 0.05(3) is (3.182)

It is clear from the above correlation figures that EPS is positively correlated in all the sample banks. This indicated that when the ROSE increases, EPS also increases and vice-versa.

The coefficient of determination (r^2) between EPS and ROSE of HBL, SCBL & EBL is 0.6183, 0.4117 & 0.0001 respectively. It means that 61.83%,

41.14% & 0.01% of total variation in earning per share amount has been explained by variation in ROSE and remaining is the effect of other factors.

From the above table it can be observed that the computed t-value of coefficient of correlation (r) between EPS and ROSE of HBL, SCBL & EBL are lower than the tabulated value (3.182) at 5% level of significance fro two tailed. Therefore the null hypothesis (H0) is accepted this implies that there is no statistically significant relationship between EPS & ROSE in the high majority of Nepalese Commercial Banks.

4.3 Trend Analysis

Tend analysis is one of the most important statistics tools to evaluate the movement of financial variables over a period of time. It shows the various fluctuations i.e. upward and downward movement of variables. In this topic various data related to capital structure have been analysed in terms of time series to show actual trend of variables of the banks during the study period. Such as EPS, loan and advances, total deposit, shareholders' reserve, total revenue, total expenditure have been presented. The following table shows the trend of above explained financial variables of sample banks over the study period.

4.3.1 Analysis of the EPS trend of the sample banks.

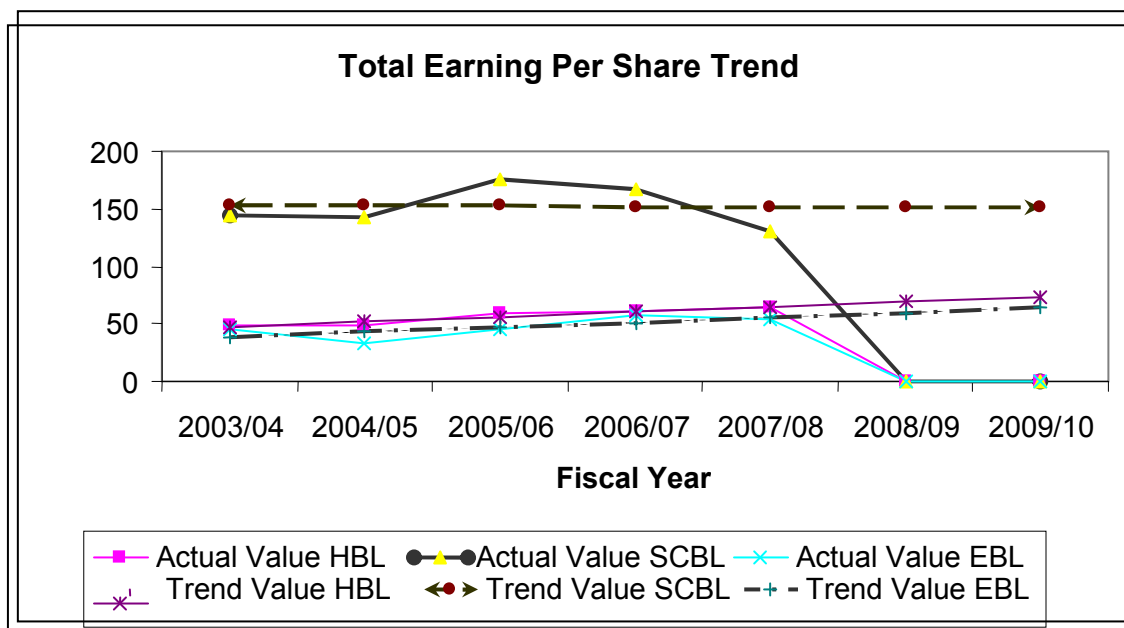
Tables no 4.17
Total earnings per share trend

Year	Time	Actual Value			Trend Value		
		HBL	SCBL	EBL	HBL	SCBL	EBL
2003/04	1	49.05	143.55	45.58	47.53	152.32	38.68
2004/05	2	47.91	143.14	32.47	51.91	152.27	42.86

2005/06	3	59.24	175.84	45.81	56.29	152.22	47.04
2006/07	4	60.66	167.37	57.22	60.67	152.16	51.23
2007/08	5	64.57	131.18	54.14	65.04	152.11	55.41
2008/09	6	-	-	-	69.42	152.06	59.59
2009/10	7	-	-	-	73.80	152.01	63.77

Source :- From Appendix IV

The above table depicts that the rate of change of HBL bank is higher than SCBL and EBL. The trend analysis of HBL bank is in increasing trend. The expected total earning per share is Rs69.42 and RS 73.80 of HBL bank in F.Y.2008/09 and 09/10 respectively. Similarly, the trend analysis of SCBL bank is in decreasing trend. The expected earnings per share is Rs152.06 and 152.01 of SCBL bank in F.Y. 2008/09 and F.Y2009/10 respectively. The earnings per share of EBL shows that there is a increasing trend the expected earnings per share for F.Y 08/09 is 59.59 and for F.Y 09/10 is Rs63.77. The actual and trend line of EPS of HBL, SCBL & EBL is shown in the following graph.

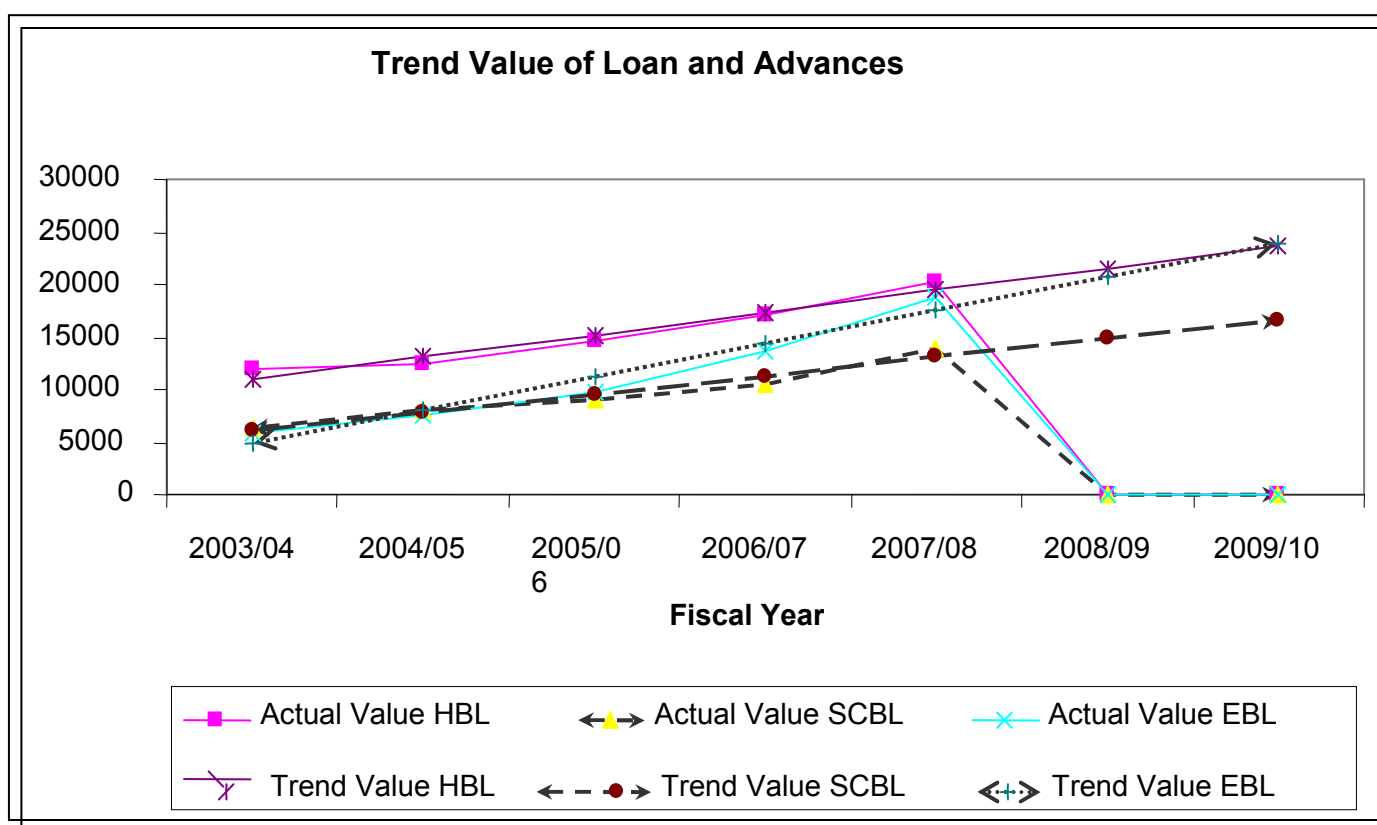


4.3.2 Analysis of the trend of Loan and Advances to other commercial Banks.

Table No. 4.18
Trend value of loans & advance to other commercial Banks.

Year	Time	Actual Value			Trend Value		
		HBL	SCBL	EBL	HBL	SCBL	EBL
2003/04	1	11951.87	6410.24	5884.12	11033.52	6097.62	4770.92
2004/05	2	12424.52	8143.21	7618.67	13136.41	7844.40	7965.92
2005/06	3	14642.56	8935.42	9801.31	15239.31	9591.18	11160.92
2006/07	4	16998.00	10502.64	13664.08	17342.21	11337.96	14355.92
2007/08	5	20179.61	13964.41	18863.43	19445.10	13084.74	17550.92
2008/09	6	-	-	-	21547.998	14831.52	20745.92
2009/10	7	-	-	-	23650.89	16578.30	23940.92

Source:- From Appendix IV



The above table depicts that the rate of change of EBL bank is higher than HBL and SCBL. The trend analysis of HBL, SCBL & EBL bank shows that there is an increment in total loan and advance every year. The expected total

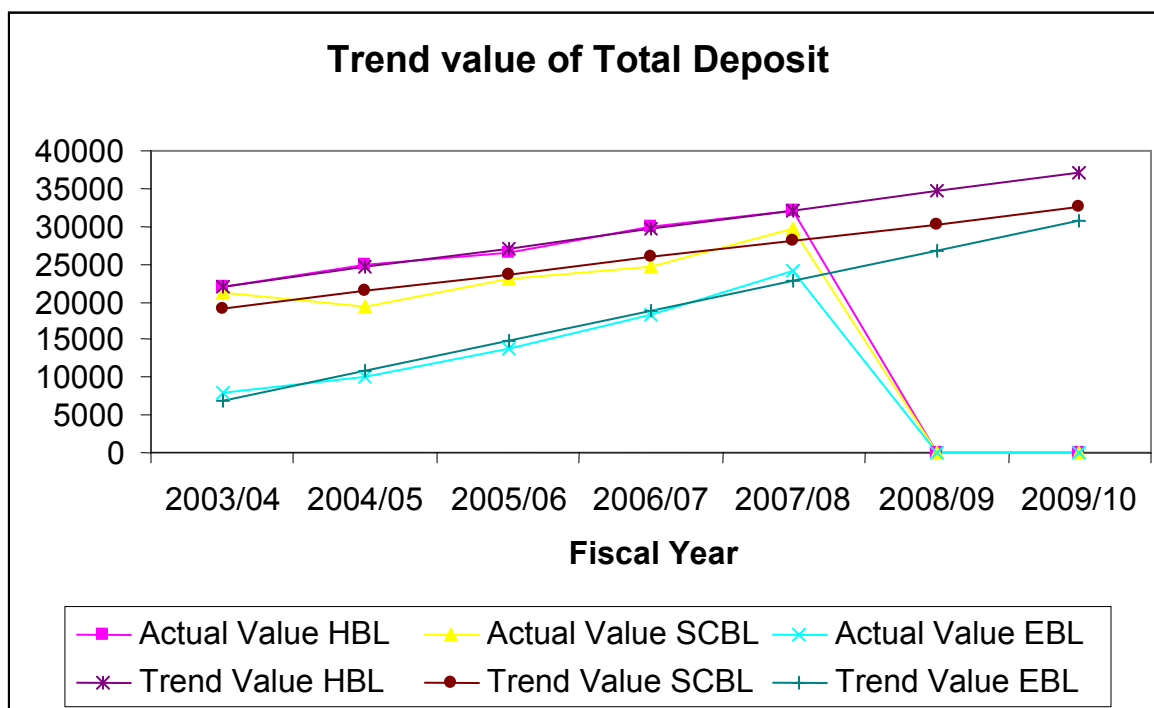
loan and advance for HBL is Rs21547.9 for the F.Y 208/09 and Rs23650.89 for the F.Y 09/10. Likewise the expected total loan and advance for SCBL is Rs14831.52 for F.Y08/09 and Rs16578.30 for the F.Y09/10. And the expected total loan and advance for EBL is Rs.20745.92 for F.Y 2008/09 and Rs 23940.92 for F.Y 09/10.

4.3.3 Analysis of The deposit and other A/c Trend of the sample banks.

Table No.4.19
Trend Value of Total Deposit

Year	Time	Actual Value			Trend Value		
		HBL	SCBL	EBL	HBL	SCBL	EBL
2003/04	1	22010.34	21161.46	8063.90	22041.99	19103.69	6842.65
2004/05	2	24814.01	19363.47	10097.69	24551.34	21348.53	10833.98
2005/06	3	26490.85	23061.03	13802.44	27060.69	23595.37	14825.31
2006/07	4	30048.42	24676.02	18186.25	29570.03	25840.20	18816.64
2007/08	5	31939.87	29743.88	23976.30	32079.37	28085.04	22807.97
2008/09	6	-	-	-	34588.71	30329.88	26799.30
2009/10	7	-	-	-	37098.05	32524.72	30790.63

From the above table, HBL bank, SCBL bank, and EBL bank all have increasing trend of total deposit. The expected total deposit of HBL in 08/09 is Rs34588.71 and in 09/10 is 37098.05. The expected total deposit of SCBL in 08/09 is Rs30329.88 and in 09/10 is Rs32524.72. Likewise the expected total deposit of EBL is Rs26799.30 in 08/09 and Rs30790.63 in 09/10 EBL banks growth rate is higher than HBL and SCBL.



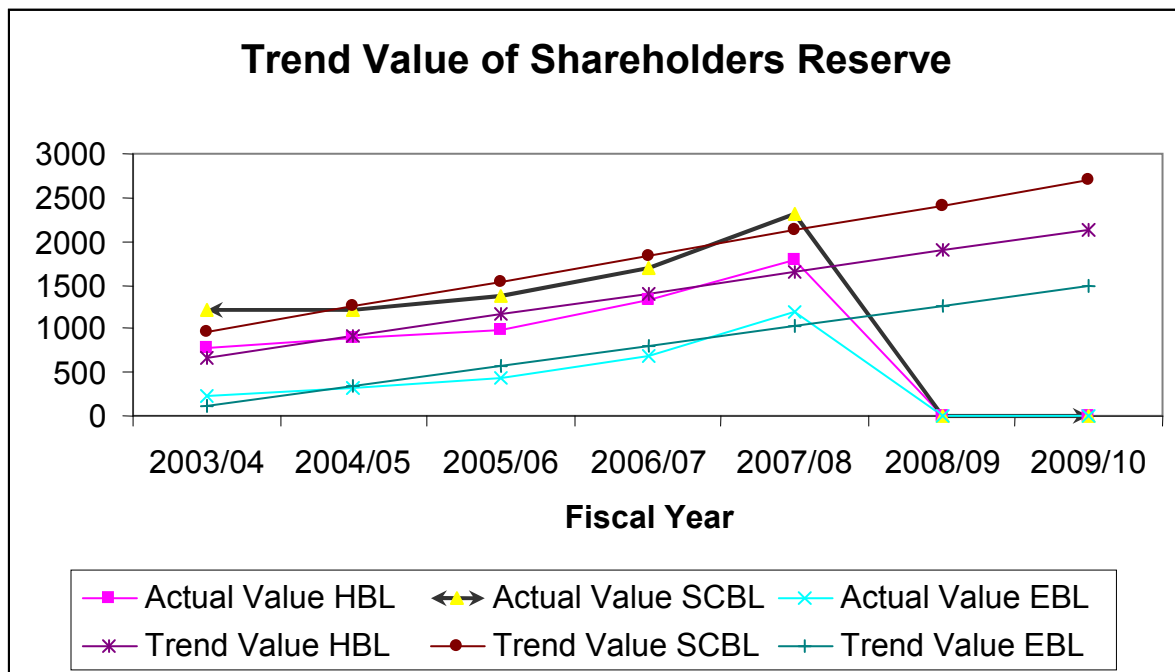
4.3.4 Analysis of the shareholders Reserve Trend of the sample Banks

Table No.4.20
Trend value of Shareholders Reserve

Year	Time	Actual Value			Trend Value		
		HBL	SCBL	EBL	HBL	SCBL	EBL
2003/04	1	787.92	1221.10	225.33	672.93	969.50	111.29
2004/05	2	898.25	1207.78	314.62	917.01	1256.98	341.84
2005/06	3	993.98	1379.50	444.81	1161.09	1544.46	572.39
2006/07	4	1335.69	1703.10	683.52	1405.17	1831.94	802.94
2007/08	5	1789.60	2310.84	1193.65	1649.25	2119.42	1033.49
2008/09	6	-	-	-	1893.33	2406.90	1264.04
2009/10	7	-	-	-	2137.41	2694.38	1494.59

Sources:- From Appendix-IV

According to table the trend value of shareholder reserve of HBL, SCBL & EBL is in increasing trend. The expected trend value of shareholder reserve of HBL bank is Rs1893.33 in F.Y 08/09 and Rs2137.41 in F.Y 09/10. The expected trend value of shareholders reserve of SCBL bank is Rs2406.90 in F.Y 08/09 and Rs2694.38 in F.Y 09/10/ and the expected trend value of shareholders reserve of EBL bank is Rs1264.04 in F.Y 08/09 and Rs1494.59 in F.Y 09/10.



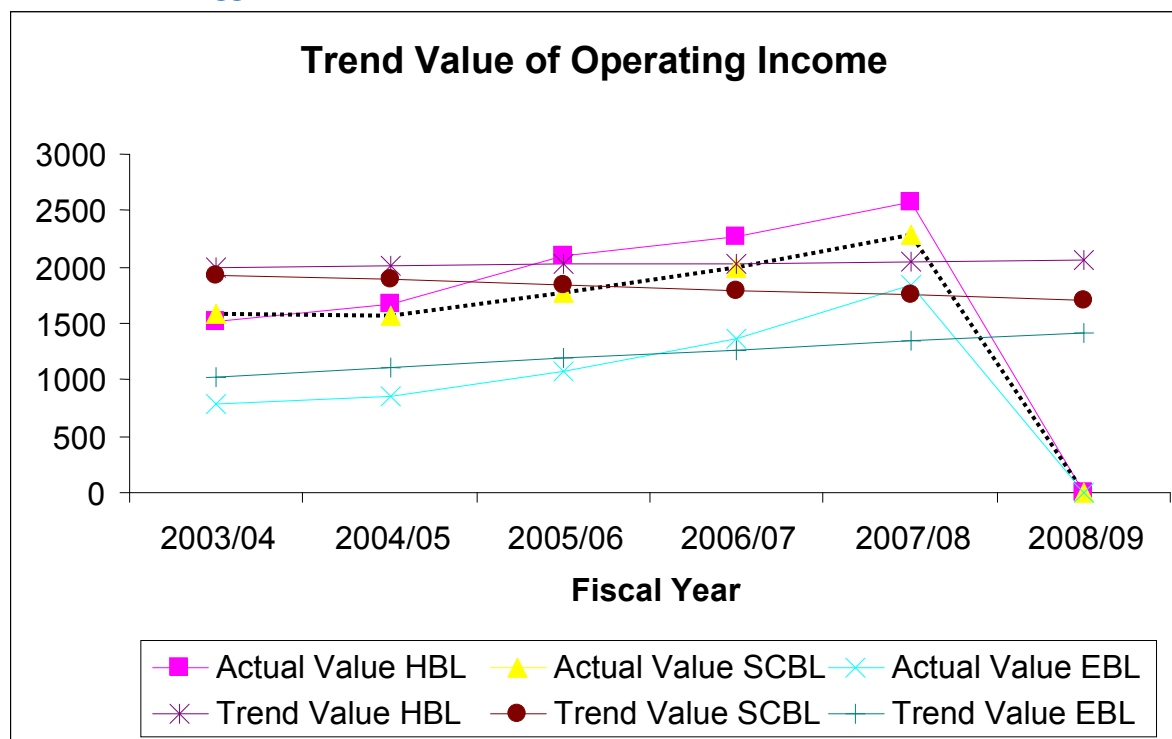
4.3.5 Analysis of Trend of Total operating Income of the sample banks.

Table No.4.21
Trend value of operating income

Year	Time	Actual Value			Trend Value		
		HBL	SCBL	EBL	HBL	SCBL	EBL
2003/04	1	1516.32	1578.35	783.19	1998.34	1931.30	1026.80
2004/05	2	1672.43	1573.92	858.96	2010.55	1886.64	1106.04

2005/06	3	2097.92	1773.56	1066.51	2022.76	1841.98	1185.28
2006/07	4	2261.03	1995.80	1370.71	2034.97	1797.32	1264.52
2007/08	5	2566.11	2288.25	1847.04	2047.18	1752.66	1343.76
2008/09	6	-	-	-	2059.39	1708.00	1423.0
2009/10	7	-	-	-	2071.60	1663.34	1502.24

Source:- From Appendix IV



Each and every business organization and financial institution are established to earn profit in the long run. So, earning is the life of any institution, without which the existence of any institution cannot be expected. The above selected banks are also not far from the objectives of profit motive. According to the table, the actual value of operating income of HBL and EBL is in increasing trend and SCBL is fluctuating. And trend value of operating income of HBL and EBL is increasing whereas of SCBL is decreasing. The expected operating income is Rs2059.39 and Rs2071.60 for the F.Y 08/09 and F.Y 09/10 for HBL bank, Rs1708.00 and Rs.1663.34 for the F.Y 08/09 and F.Y

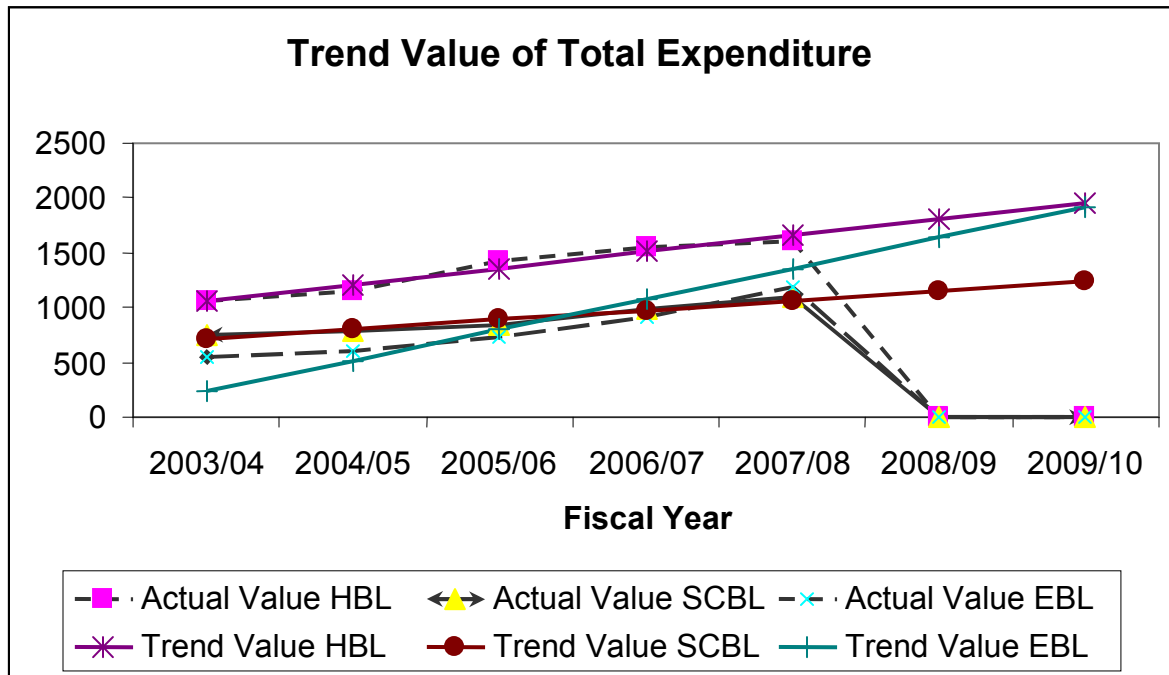
09/10 for the SCBL bank. The expected trend value of operating income for EBL is Rs1423.00 in F.Y08/09 and Rs1502.24 in F.Y 09/10.

4.3.6 Analysis of the Expenditure Trend of the Sample Banks

Table No. 4.22 Trend Value of Total expenditure.

Year	Time	Actual Value			Trend Value		
		HBL	SCBL	EBL	HBL	SCBL	EBL
2003/04	1	1064.32	744.22	554.20	1061.49	704.70	238.92
2004/05	2	1149.89	775.77	606.24	1210.16	795.23	518.19
2005/06	3	1425.52	834.18	720.91	1358.83	885.75	797.46
2006/07	4	1543.63	979.70	916.00	1507.50	976.27	1076.73
2007/08	5	1610.80	1094.88	1189.93	1656.17	1066.80	1356.00
2008/09	6	-	-	-	1804.84	1157.33	1635.27
2009/10	7	-	-	-	1953.51	1247.85	1914.54

Source: From Appendix IV



After Analysing that data it can be concluded that the actual value of total expenditure of all sample banks has been increasing every year. And the rates of change of trend value of total expenditure of all banks are in increasing trend.

However, the bank EBL has been increasing every year relatively higher. The expected value of total expenditure is Rs.1804.84 and Rs1953.51 of HBL bank in F.Y2008/09 and F.Y09/10. Similarly, the expected trend value of total expenditure of SCBL is Rs1157.33 and Rs1247.85 in F.Y08/09 and F.Y 09/10. And the expected trend of total expenditure of EBL is Rs.1635.27 and Rs1914.54 in F.Y 08/09 and F.Y 09/10. Therefore, it concludes that the trend line of EBL is increasing faster than SCBL and HBL.

4.4 Major Findings of the Study.

The major findings of the study derived from the comparative analysis and interpretation of secondary data are summarized as follows:-

- (1) The SCBL is engaged in short term debt of yearly nature but HBL and EBL has used the long term debt. The average D/E ratio of HBL is highest with a highest C.V which indicates the high risk in debt-equity ratio whereas the SCBL & EBL has moderate fluctuation in D/E ratio.
- (2) The average debt assets ratio of EBL is highest indicating that the use of debt capital to acquire the shares of total assets is highest. The C.V of EBL is highest which indicates the EBL has more fluctuation in DA ratio than other two banks.
- (3) The year to year comparison of debt to total capital ratio of all sample banks indicates that the debt portion in total capital is nearly to meet each other during the study period, however the average debt to total capital ratio of HBL is highest with the highest C.V
- (4) The average ROCE for SCBL is highest with a lowest C.V which indicates that the bank has been efficiently utilizing its resources provided by its owner and creditors. The HBL as lowest average ROCE

with highest C.V indicating that there is more variation in ROCE during the study period which is in fluctuating trend.

- (5) The contribution of the owner of the total assets of SCBL is highest because the average return on assets of that bank is highest with high level of consistency and less fluctuation among all the sample banks where as the HBL has lowest average return on assets with more fluctuation. The EBL has moderate level of fluctuation.
- (6) From the analysis, it shows that the average ROSE of SCBL is the highest and that of EBL is the lowest. SCBL has provided much more satisfactory level of ROSE over the study period. The higher the ratio, the more management in utilization of shareholders fund. The ROSE of SCBL is more consistent than other two banks. The ROSE of HBL is in moderate level of consistency and ROSE of EBL is less consistency.
- (7) The trend value of interest coverage ratio in HBL and SCBL is in fluctuating trend and that of EBL is in increasing trend. The average interest coverage ratio of SCBL is highest but also has high C.V, which indicates SCBL has strong power of interest payment. The EBL has lowest average interest coverage ratio with moderate fluctuation. This implies that the average moderate fluctuation. This implies that the average debt serving capacity of EBL is lowest the sample banks; however all the sample banks have sufficient ability to pay interest on debt.
- (8) The average P/E ratio of EBL is the highest and also highly fluctuated whereas average P/E ratio of HBL is the lowest with the less fluctuation. The variability of P/E ratio of HBL is more consistent than that of EBL. So, on the analysis of P/E ratio of HBL is more consistent than that of

EBL. So, on the analysis of P/E ratio, it is found that, P/E ratio of HBL is fluctuating and of SCBL and EBL is in increasing trend

- (9) All the sample banks are not following constant payout ratio. The fluctuation ranges between 97% to 55%. SCBL has the highest average D/P ratio with a lowest C.V, which indicates the low level of fluctuations. Whereas the HBL has lowest average D/P ratio with medium C.V, due to not paying dividend for F.Y03/04 and F.Y07/08. The D/P Ratio indicates that SCBL has paid more portion of earning as dividends and have less retained with the comparison of EBL & HBL.
- (10) The average earning per share of sample banks do not seem satisfactory except for SCBL. The average EPs of SCBL is the highest with more consistency and less fluctuation while EBL has the lowest average EPs with more fluctuation. HBL has moderate fluctuation in EPS among the banks under study.
- (11) The average DFL of HBL is highest with a highest C.V, which indicates there is high level of financial risk due to negative DFL.
- (12) The correlation coefficient between total assets and net profit is positive in all the banks under study. Similarly, the calculated t-value of correlation coefficient between TA & NPAT of HBL, SCBL & EBL are greater than the tabulated value at 5% level of significance. Therefore the null hypothesis (H_0) is rejected. It implies that there is statistically significant relationship between Ta & NPAT in the high majority of Nepalese banks.

The coefficient of determination (r^2) between TA & NPAT for respective banks are 0.9465, 0.9549 and 0.9767. The EBL has highest r^2 and HBL has the lowest r^2 .

- (13) The correlation coefficient between cost of service and net profit is positive in case of all sample banks. Similarly, the calculated t-value of correlation coefficient between cost of service and net profit of HBL and SCBL are greater than the tabulated value at 5% level of significance besides EBL. Therefore, Null hypothesis (H_0) are rejected for majority of selected banks. It implies that there is statistically significant correlation between cost of service and net profit in the high majority of Nepalese banks

The coefficient of determination (r^2) between cost of service and net profit of respective banks are 0.9357, 0.9164 and 0.1986 and that of EBL is the lowest i.e. 0.1986

- (14) The correlation coefficient between total debt and shareholders equity is positive in all the banks under study. Similarly, the calculated t-value of correlation coefficient between total debt and shareholders' equity of concerned banks is greater than the tabulated value at 5% level of significance. Therefore, the null hypothesis (H_0) is rejected and alternative hypothesis is selected for the sample banks. It implies that there is statistically significant correlation between total debt and shareholders equity in the high majority of Nepalese commercial banks.

The coefficient of determination (r^2) between total debt and shareholders' equity of respective banks are 0.8288, 0.9019 and 0.9107. EBL has the highest r^2 i.e. 0.9107 and that of HBL is the lowest i.e. 0.8288

(15) The correlation coefficient between total debt and interest expenses is positive in case of all sample banks. Similarly, the calculated t-values of correlation coefficient between total debt and interest expenses for HBL, SCBL & EBL are greater than the tabulated value at 5% level of significance. Therefore the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. This implies that there is statistically significant relationship between total debt and interest expenses in the high majority of the Nepalese commercial banks.

The coefficient of determination (r^2) between total debt and interest expenses of respective banks are 0.9783, 0.9493 and 0.9819. The EBL has the highest r^2 i.e. 0.9819 and that of SCBL is the lowest i.e. 0.9493

(16) The correlation coefficient between ROSE and EPS is positively correlated. In case of all sample banks. Similarly, the calculated t-value of the correlation coefficient between ROSE & EPS of the concerned banks are lower than the tabulated value at 5% level of significance. Therefore the Null hypothesis (H_0) is accepted. It implies that there is no statistically significant relationship between ROSE and EPS in the high majority of Nepalese commercial banks.

The coefficient of determination (r^2) between ROSE and EPS for respective banks are 0.6183, 0.4117 and 0.0001. The HBL has the highest r^2 i.e. 0.6183 and EBL has the lowest i.e. 0.0001 during the study period.

CHAPTER-V

SUMMARY, CONCLUSION AND RECOMMENDATION

This study is the research upon the capital structure of the joint venture banks in Nepal. This chapter is a complete conclusive and suggestive package which contains summary, conclusion of the finding and actionable plans or suggestions for the further improvement. This would be meaningful for the top management of the banks to initiate action and achieve the desired result. Summary gives the brief introduction to all the chapters of the study and shows the actual facts of the present situation under the topic of the study. Conclusions of the findings are based on the consequences of the analysis of relevant data by using various financial and statistical tools. On the basis of these recommendations are presented for the better capital structure management of commercial banks in Nepal.

5.1 Summary of the Study.

Industrialization is the essential thing to improve economic condition of the nation. Furthermore, industries and business enterprises are fundamental thing of economic development. Industrialization also helps in advancement and modernization of science & Technology. Thus industrialization has wide prospects even to develop the agricultural sector and overall economic development of the country.

Before establishment of any industries or business it requires a large amount of financial resources. And banks are playing a vital role in this regard basically commercial banks.

To enhance the economic activities banking is flourishing in the context of Nepal joint venture banks are increasing rapidly. Such institutions have been

proved as the backbone of the economic upliftment of the nation and they are the indicator of the economic development. But also these sectors has not covered the large area in our country as the policy of the government was not clear in panchayat period and the development of banks started very late and it is still in the growing stage.

To be a sound company and to provide better services with the success coverage of the total market and to provide p[roper benefits top stock holders the company should be sound in all aspect like financial, operational, capital structure ect. Without soundness of any part of the company, it can not provide proper contribution to its relevant sectors.

This study is focused on the various aspects of financial management of three JVBs but the basic focus has been made on capital structure of the banks. It has been divided into five main chapters, viz. introduction, review of literature, research methodology, presentation and analysis of the data and at last summary, conclusion and recommendation. Each chapter has been divided into various sub topics for the easiness of the analysis. Mainly, the financial data collected from the website of the respective banks.

Capital structure is an important part of any business organization, with measures the firm's strengths and weaknesses and helps to future as a guideline. Actually proper capital structure increases the market value of the firm. The position of capital structure of accompany can be examined using different financial as well as statistical tools that measure whether the capital structure management of a company is adequate or not.

The firms has many responsibilities out of them the main is to satisfy the interest of its shareholders which is possible only through proper capital structure management.

To evaluate the capital structure management of three JVBs is the primary objective of this study. And other objectives are formulated to support this primary objective. This study will help to analyze its past and present that success or failure aspect of the Banks (HBL, SCBL & EBL) any may important guideline for future to the manager and shareholders. This study is based upon some assumption as time, constraint ect. The capital structure management can be evaluated on the basis of financial statement such as, balance sheet, profit and loss account and income statement. For this, different tools (financial and statistical) can be used.

Capital structure is the combination of different components as long-term debt, preferred stock and common stock or equity capital. Furthermore, capital structure is the composition of long-term sources of funds such as debenture, long-term debt, preference share capital and equity share capital including reserve and surplus. The capital structure decision can directly affect the value of the firm either by changing the expected earnings of the cost of capital of by both. There are different factors as determinants that should be considered whenever a capital structure decision has to be taken. An appropriate capital structure should have some important features as profitability, conservation, control ect.

Theory of capital structure is based upon some assumption. On the basis of these assumptions, different approaches have been made such as NI approach, NOI approach. Traditional approach and Modigliani-Miller approach.

The optimal capital structure is obtained when the market value per share is maximum, or the average cost of capital is minimum. To be an optimal capital structure, the combination of equity & debt should be considered that could be minimize the cost of capital and could be maximized the value of the firm or shareholder wealth.

In this study, the necessary data have been collected from the website. Under this study, both financial and statistical tools such as ratio analysis, financial leverage, trend analysis and so on arithmetic mean, standard deviation, coefficient of variation, testing of hypothesis are the major data analytical tools of this study, where related table & figures have been presented in this study, to make sound study.

5.2 Conclusion

From the analysis of financial and statistical indicators of all the sample banks, the researcher has been able to draw certain conclusion that the banks have different financial performance situation. In this study, it was already found that SCBL is more effective than HBL and EBL.

Based on the data provided by the concern company, the above analysis has been made. And based on upon this analysis; the following conclusion can be made;

- a) A capital structure of any organization is affected by different types of environment. Such as management attitude, shareholders expectation and social-economic condition of the country. Regarding this bank, top level management plays a vital role to decision different financial decision. The bank is bounded by certain rules and regulation.
- b) While analyzing the total debt of sample banks it is found that the total debt came only from the short term debt in case of SCBL. But the EBL and EBL has been using both long term and short term debt.
- c) The dividend payout ratio of all the sample banks is not constant. It is in the fluctuating trend. However SCBL has paid more portion of earning as dividend and retained less. Banks have not paid dividend for 07/08 during the study period.

- d) The average earning per share of banks do not seem satisfactory except for SCBL. The SCBL has the highest average EPS with more consistency and moderate fluctuation.
- e) The degree of financial leverage of all the sample banks have not seem to be satisfactory however the HBL has quite satisfactory in the financial leverage position. But in F.Y04/05 all the banks have negative DFL whereas SCBL has again negative DFL in F.Y06/07 and 07/08 and EBL again has negative DFL in F.Y07/08.
- f) The expenditure trend of the banks is increasing which is not good signal of the banks

From the analysis of financial and statistical indicators of all the sample banks, the researcher has been able to draw certain conclusion that the three banks have different financial performance situation in this study, it was found that SCBL is more effective than the HBL & EBL.

5.3 Recommendation

The banks have been aggressively using current liabilities as a source of short term financing. Over utilization of current liabilities may adversely impact to the short term solvency position of the banks.

The banks should take capital structure matter seriously and it is recommended to be conscious on the theoretical aspect of capital structure management and to maintain records accordingly. This helps the company to plan their capital structure properly and to find out the cause effect relationship between or among the components of capital structure and other factors which affect the capital structure of these firms. While analysing the capital structure of the banks, the main part of the capital long term debt has not been used by SCBL.

The commercial banks have been found to adopt no definite dividend payment policies which create negative impression in the mind of investors. So, the commercial banks are advised to follow stable or consistent dividend payment.

The banks should also consider to improve the earning per share because it is the indicator for attracting the investors to invest in shares and making them more confident on the investment of the particular company.

From the analysis of financial leverage the banks do not seem to be at satisfactory level. Therefore, the bank should try to increase its leverage position. All the selected banks need to review and monitor the leverage ratio regularly so that risk to the bank may not increase. Which may effect in efficient operation of the banks.

There are many workers who may be unskilled and inactive and untrained to. So, such workers should be replaced by skilled, trained and able workers with some experts in various fields.

The most important aspect of any organization is meeting its social responsibility and creating a good image in the society. The banks should not forget this. To meet social responsibilities, it is recommended that all the banks should promote and mobilize the funds in the rural sectors by bringing new schemes, which will help in the upliftment of overall economic development of the country. The areas of lending also must be increased to rural sector in search of raw lending areas.

Nepalese investors are investing their funds on commercial banks haphazardly, randomly and without consulting capital market analysts. So, they are suggested to analyses capital market situation before pouring their funds.

The management of all the banks should be assisting to make the success of the banks in future regarding their capital structure.

Even though future estimated of EPS, total deposit, operating income are in positive but it implies all if all condition remains constant, but environment is ever dynamic. Therefore they should also make a good marketing strategy to attract shareholders.

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Appendix-I

Financial Indicator Bank wise

Himalayan Bank Ltd

Year→	03/04	04/05	05/06	06/07	07/08	Mean	S.D	C.V
Debt to Equity Ratio	1348.65	1678.38	1568.03	1461.57	1243.09	1459.94	154.15	0.10
Debt Ratio	93.01	94.38	94.00	93.60	92.55	93.51	0.66	0.0071
Debt to total capital Ratio	93.01	94.26	93.86	93.45	92.13	93.34	0.74	0.0078
ROCE Ratio	12.72	15.05	20.15	17.93	17.82	16.73	2.58	0.154
ROA Ratio	1.06	1.12	1.55	1.47	1.74	1.388	0.26	0.19
ROSE Ratio	19.87	20.0	25.90	22.91	23.35	22.41	2.26	0.10
ICR	185.56	192.99	203.63	193.48	215.97	198.33	10.53	0.53
EPS	49.05	47.91	59.24	60.66	64.57	56.29	6.62	0.12
MPS	840	920	1100	1740	1980			
P/E Ratio	17.12	19.20	18.57	28.69	30.67	22.85	5.65	0.25
DPS	0.00	11.58	30.00	15.00	0.00			
DP Ratio	0.00	24.17	50.64	24.73	0.00	19.91	18.86	0.95

Standard Chartered Bank Ltd

Year→	03/04	04/05	05/06	06/07	07/08	Mean	S.D.	C.V
Debt to Equity Ratio	12.05.29	1276.48	1386.94	1251.23	1042.52	1228.89	107.40	0.09
Debt Ratio	93.67	92.74	93.19	92.60	91.25	92.69	0.81	0.0087
Debt to total capital Ratio	92.34	92.46	92.93	92.21	91.03	92.19	0.63	0.0068
ROCE Ratio	29.27	33.13	37.56	27.49	27.78	31.08	3.84	0.123
ROA Ratio	2.28	2.46	2.56	2.42	2.43	2.43	0.09	0.04
ROSE Ratio	35.96	33.89	37.56	32.68	27.78	33.57	3.34	0.09
ICR	384.18	414.07	409.82	345.99	352.98	381.41	28.09	0.074
EPS	143.55	143.14	175.84	167.37	131.18	152.22	16.66	0.11
MPS	1745	2345	37.75	5900	6830			
P/E Ratio	12.16	16.38	21.47	35.25	52.06	27.46	14.55	0.53
DPS	110	120.00	120.00	80.00	0.00			
DP Ratio	76.63	83.83	68.24	47.80	0.00	55.3	30.17	0.55

Everest Bank Limited

Year→	03/04	04/05	05/06	06/07	07/08	Mean	S.D.	C.V
Debt to Equity Ratio	1397.95	1309.11	1557.57	1683.79	1273.08	1444.43	48.84	0.03
Debt Ratio	94.38	92.90	93.97	94.39	92.72	93.67	0.83	0.0089
Debt to total capital Ratio	93.32	92.59	93.61	93.90	92.30	93.14	0.61	0.0065
ROCE Ratio	22.13	14.85	18.79	19.75	19.36	18.98	2.36	0.124
ROA Ratio	1.49	1.43	1.49	1.38	1.62	1.48	0.08	0.05
ROSE Ratio	26.57	20.20	24.65	24.67	15.93	22.40	3.85	0.17
ICR	167.14	184.36	186.10	187.92	203.87	185.88	11.67	0.062
EPS	45.58	32.47	45.81	57.22	54.14	47.04	8.60	0.18
MPS	680	870	1379	2430	3132			
P/E Ratio	14.92	26.79	30.10	42.47	57.85	34.43	14.63	0.43
DPS	20	0.00	25.00	10.00	0.00			
DP Ratio	43.38	0.00	54.57	17.48	0.00	23.17	22.43	0.97



Appendix-II

CORRELATION ANALYSIS

A. Correlation between total Assets and Net Profit

♦Himalayan Bank Limited

F.Y.	Total Assets (X)	Net Profit (Y)	X ²	Y ²	XY
03/04	24762.04	263.05	613158625	69195.3025	6513655
04/05	27418.16	308.28	751755497.8	95036.5584	8452470
05/06	29460.39	457.46	867914579	209269.6516	13476950
06/07	33519.14	491.82	1123532746	241886.9124	16485383
07/08	37648.34	654.39	1417397505	428226.2721	24636697
Total	Σx=152808.07	Σy=2175	Σ X ² =4773758953	ΣY ² =1043614.697	ΣXY=69565156

$$\begin{aligned}
 \text{Cor (r)} &= \frac{N \times \sum XY - \sum x \times \sum y}{\sqrt{N \times \sum X^2 - (\sum x)^2} \times \sqrt{N \times \sum Y^2 - (\sum y)^2}} \\
 &= \frac{5 \times 69565156 - 152808.07 \times 2175}{\sqrt{5 \times 4773758953 - (152808.07)^2} \times \sqrt{5 \times 1043614.697 - (2175)^2}} \\
 &= 0.9729 \text{ or } 0.97
 \end{aligned}$$

♦Standard Chartered Bank Limited

F.Y.	Total Assets (X)	Net Profit (Y)	X ²	Y ²	XY
03/04	23642.06	537.8	558947001	289228.84	12714700
04/05	21781.68	536.24	474441583.6	287553.3376	11680208
05/06	25767.35	658.76	663956326	433964.7376	16974499
06/07	28596.69	691.67	817770679	478407.3889	19779473
07/08	33494.2	814.37	1121861434	663198.4969	27276672
Total	Σx=133281.98	Σy=3238.84	Σ X ² =3636977023	ΣY ² =2152352.801	ΣXY=88425552

$$\begin{aligned}
 \text{Cor (r)} &= \frac{N \times \sum XY - \sum x \times \sum y}{\sqrt{N \times \sum X^2 - (\sum x)^2} \times \sqrt{N \times \sum Y^2 - (\sum y)^2}} \\
 &= \frac{5 \times 88425552 - 133281.98 \times 3238.84}{\sqrt{5 \times 3636977023 - (133281.98)^2} \times \sqrt{5 \times 2152352.801 - (3238.84)^2}} \\
 &= 0.9772 \text{ or } 0.98
 \end{aligned}$$

♦Everest Bank Limited

F.Y.	Total Assets (X)	Net Profit (Y)	X ²	Y ²	XY
03/04	9608.56	143.57	92324425.27	20612.3449	1379501
04/05	11732.52	168.21	137652025.6	28294.6041	1973527
05/06	15959.28	237.29	254698618.1	56306.5441	3786978
06/07	21432.57	296.41	459355056.8	87858.8881	6352828
07/08	27805.49	450.12	773145274.1	202608.0144	12515807
Total	Σx=86538.42	Σy=1295.6	Σx ² =1717175400	ΣY ² =395680.38	ΣXY=26008641

$$\begin{aligned}
 \text{Cor (r)} &= \frac{N \times \sum XY - \sum x \times \sum y}{\sqrt{N \sum X^2 - (\sum x)^2} \times \sqrt{N \sum Y^2 - (\sum y)^2}} \\
 &= \frac{5 \times 26008641 - 86538.42 \times 1295.6}{\sqrt{5 \times 1717175400 - (86538.42)^2} \times \sqrt{5 \times 395680.3956 - (1295.6)^2}} \\
 &= 0.9883 \text{ or } 0.99
 \end{aligned}$$

B. Correlation between Cost of Service and Net Profit

♣ Himalayan Bank Limited

F.Y	Cost of Service (X)	Net Profit (Y)	X ²	Y ²	XY
03/04	644.05	263.05	414800.4025	69195.3025	169417.3525
04/05	740.55	308.28	548414.3025	95036.5584	228296.754
05/06	883.43	457.46	780448.5649	209269.6516	404133.8878
06/07	1039.64	491.82	1080851.33	241886.9124	511315.7448
07/08	1121.02	654.39	1256685.84	428226.2721	733584.2778
Total	Σx=4428.69	Σy=2175	ΣX ² =4081200.44	ΣY ² =1043614.697	ΣXY=2046748.017

$$\begin{aligned}
 \text{Cor (r)} &= \frac{N \times \sum XY - \sum x \times \sum y}{\sqrt{N \sum X^2 - (\sum x)^2} \times \sqrt{N \sum Y^2 - (\sum y)^2}} \\
 &= \frac{5 \times 2046748.017 - 4428.69 \times 2175}{\sqrt{5 \times 4081200.44 - (4428.69)^2} \times \sqrt{5 \times 1043614.697 - (2175)^2}} \\
 &= \frac{601339.2}{621613.53} \\
 &= 0.9673 \\
 &= 0.97
 \end{aligned}$$

Cost of Service = Interest Expenses + Salaries

♣ Standard Chartered Bank Limited

F.Y	Cost of Service (X)	Net Profit (Y)	X ²	Y ²	XY
03/04	406.93	537.8	165592.0249	289228.84	218846.954
04/05	402.72	536.24	162183.3984	287553.3376	215954.5728
05/06	471.43	658.76	222246.2449	433964.7376	310559.2268
06/07	612.84	691.67	375572.8656	478407.3889	423883.0428
07/08	696.99	814.37	485795.0601	663198.4969	567607.7463
Total	Σx=2590.91	Σy=3238.84	Σ X ² =1411389.594	ΣY ² =2152352.801	ΣXY=1736851.543

$$\begin{aligned}
\text{Cor (r)} &= \frac{N \times \sum XY - \sum x \times \sum y}{\sqrt{N \sum X^2 - (\sum x)^2} \times \sqrt{N \sum Y^2 - (\sum y)^2}} \\
&= \frac{5 \times 1736851.543 - 2590.91 \times 3238.84}{\sqrt{5 \times 1411389.594 - (2590.91)^2} \times \sqrt{5 \times 2152352.801 - (3238.84)^2}} \\
&= 0.9573 \\
&= 0.96
\end{aligned}$$

🔹 Everest Bank Limited

F.Y	Cost of Service (X)	Net Profit (Y)	X ²	Y ²	XY
03/04	362.97	143.57	131747.2209	20612.3449	52111.6029
04/05	360.17	168.21	129722.4289	28294.6041	60584.1957
05/06	472.32	237.29	223086.1824	56306.5441	112076.8128
06/07	603.29	296.41	363958.8241	87858.8881	178821.1889
07/08	789.73	450.12	623673.4729	202608.0144	355473.2676
Total	Σx=2588.48	Σy=1295.6	Σ X ² =1472188.129	ΣY ² =395680.3956	ΣXY=759067.0679

$$\begin{aligned}
\text{Cor (r)} &= \frac{N \times \sum XY - \sum x \times \sum y}{\sqrt{N \sum X^2 - (\sum x)^2} \times \sqrt{N \sum Y^2 - (\sum y)^2}} \\
&= \frac{5 \times 759067.0679 - 2588.48 \times 1295.6}{\sqrt{5 \times 1472188.129 - (2588.48)^2} \times \sqrt{5 \times 395680.3956 - (1295.6)^2}} \\
&= \frac{441700.66}{991155.18} \\
&= 0.4456 \\
&= 0.45
\end{aligned}$$

C. Correlation between Total debt and shareholders equity

➡ Himalayan Bank Limited

F.Y	Total Debt (X)	Shareholder's Equity (Y)	X ²	Y ²	XY
03/04	23030.89	1707.7	530421894.2	2916239.29	39329850.85
04/05	25876.41	1541.75	669588594.5	2376993.063	39894955.12
05/06	27694.21	1766.18	766969267.5	3119391.792	48912959.82
06/07	31372.64	2146.5	984242540.6	4607462.25	67341371.76
07/08	34845.23	2803.11	1214190054	7857425.672	97675012.67
Total	Σx=142819.38	Σy=9965.24	ΣX ² =4165412351	ΣY ² =20877512.07	ΣX Y=293154150.2

$$\begin{aligned}
\text{Cor (r)} &= \frac{N \times \sum XY - \sum x \times \sum y}{\sqrt{N \sum X^2 - (\sum x)^2} \times \sqrt{N \sum Y^2 - (\sum y)^2}} \\
&= \frac{5 \times 293154150.2 - 142819.38 \times 9965.24}{\sqrt{5 \times 4165412351 - (142819.38)^2} \times \sqrt{5 \times 20877512.07 - (9965.24)^2}} \\
&= \frac{42541352.65}{46727658.46} \\
&= 0.9104 \\
&= 0.91
\end{aligned}$$

➡ Standard Chartered Bank Limited

F.Y	Total Debt (X)	Shareholder's Equity (Y)	X ²	Y ²	XY
03/04	22146.33	1837.43	490459932.5	3376149.005	40692331.13
04/05	20199.26	1582.42	408010104.5	2504053.056	31963713.01
05/06	24013.21	1754.14	576634254.5	3077007.14	42122532.19
06/07	26480.34	2116.35	701208406.5	4478937.323	56041667.56
07/08	30562.58	2931.62	934071296.3	8594395.824	89597870.78
Total	Σx=123401.72	Σy=10221.96	ΣX ² =3110383994	ΣY ² =22030542.35	ΣX Y=260418114.7

$$\begin{aligned}
\text{Cor (r)} &= \frac{N \times \sum XY - \sum x \times \sum y}{\sqrt{N \sum X^2 - (\sum x)^2} \times \sqrt{N \sum Y^2 - (\sum y)^2}} \\
&= \frac{5 \times 260418114.7 - 123401.72 \times 10221.96}{\sqrt{5 \times 3110383994 - (123401.72)^2} \times \sqrt{5 \times 22030542.35 - (10221.96)^2}} \\
&= \frac{40683127.73}{42835149.55} \\
&= 0.9497 \\
&= 0.95
\end{aligned}$$

➡ Everest Bank Limited

F.Y	Total Debt (X)	Shareholder's Equity (Y)	X ²	Y ²	XY
03/04	9068.24	648.68	82232976.7	420785.7424	5882385.923
04/05	10899.9	832.62	118807820	693256.0644	9075474.738

05/06	14996.47	962.81	224894112.5	927003.0961	14438751.28
06/07	20231.05	1201.52	409295384.1	1443650.31	24308011.2
07/08	25780.44	2025.05	664631086.6	4100827.503	52206680.02
Total	$\Sigma x=80976.1$	$\Sigma y=5670.68$	$\Sigma X^2=1499861380$	$\Sigma Y^2=7585522.716$	$\Sigma XY=105911303.2$

$$\begin{aligned}
 \text{Cor (r)} &= \frac{N \times \sum XY - \sum x \times \sum y}{\sqrt{N \times \sum X^2 - (\sum x)^2} \times \sqrt{N \times \sum Y^2 - (\sum y)^2}} \\
 &= \frac{5 \times 105911303.2 - 80976.1 \times 5670.68}{\sqrt{5 \times 1499861380 - (80976.1)^2} \times \sqrt{5 \times 7585522.716 - (5670.68)^2}} \\
 &= \frac{70366964.75}{73738129.42} \\
 &= 0.9543 \\
 &= 0.95
 \end{aligned}$$

D. Correlation Between Total Debt and Interest Expenses

➡ Himalayan Bank Limited

F.Y	Total Debt (X)	Interest Expenses (Y)	X^2	Y^2	XY
03/04	23030.89	491.54	530421894.2	241611.5716	11320603.67
04/05	25876.41	561.96	669588594.5	315799.0416	14541507.36
05/06	27694.21	648.84	766969267.5	420993.3456	17969111.22
06/07	31372.64	767.41	984242540.6	588918.1081	24075677.66
07/08	34845.23	823.76	1214190054	678580.5376	28704106.66
Total	$\Sigma x=142819.38$	$\Sigma y=3293.51$	$\Sigma x^2=4165412351$	$\Sigma Y^2=2245902.605$	$\Sigma XY=96611006.58$

$$\begin{aligned}
 \text{Cor (r)} &= \frac{N \times \sum XY - \sum x \times \sum y}{\sqrt{N \times \sum X^2 - (\sum x)^2} \times \sqrt{N \times \sum Y^2 - (\sum y)^2}} \\
 &= \frac{5 \times 96611006.58 - 142819.38 \times 3293.51}{\sqrt{5 \times 4165412351 - (142819.38)^2} \times \sqrt{5 \times 2245902.605 - (3293.51)^2}} \\
 &= \frac{12677976.48}{12816834.51} \\
 &= 0.9891 \\
 &= 0.99
 \end{aligned}$$

➡ Standard Chartered Bank Limited

F.Y	Total Debt (X)	Interest Expenses (Y)	X^2	Y^2	XY
03/04	22146.33	272.24	490459932.5	74114.6176	6029116.879
04/05	20199.26	254.13	408010104.5	64582.0569	5133237.944
05/06	24013.21	303.2	576634254.5	91930.24	7280805.272

06/07	26480.34	413.06	701208406.5	170618.5636	10937969.24
07/08	30562.58	471.73	934071296.3	222529.1929	14417285.86
Total	$\Sigma x=123401.72$	$\Sigma y=1714.36$	$\Sigma x^2=3110383994$	$\Sigma Y^2=623774.67$	$\Sigma XY=43798415.2$

$$\begin{aligned}
 \text{Cor (r)} &= \frac{N \times \Sigma XY - \Sigma x \times \Sigma y}{\sqrt{N \times \Sigma X^2 - (\Sigma x)^2} \times \sqrt{N \times \Sigma Y^2 - (\Sigma y)^2}} \\
 &= \frac{5 \times 43798415.2 - 123401.72 \times 1714.36}{\sqrt{5 \times 3110383994 - (123401.72)^2} \times \sqrt{5 \times 623774.67 - (1714.36)^2}} \\
 &= \frac{7437103.25}{7632664.83} \\
 &= 0.9743 \\
 &= 0.97
 \end{aligned}$$

➡ Everest Bank Limited

F.Y	Total Debt (X)	Interest Expenses (Y)	X^2	Y^2	XY
03/04	9068.24	314.44	82232976.7	98872.5136	2851417.386
04/05	10899.9	299.57	118807820	89742.1849	3265283.043
05/06	14996.47	401.4	224894112.5	161121.96	6019583.058
06/07	20231.05	517.17	409295384.1	267464.8089	10462892.13
07/08	25780.44	632.63	664631086.6	400220.7169	16309479.76
Total	$\Sigma x=80976.1$	$\Sigma y=2165.21$	$\Sigma x^2=1499861380$	$\Sigma Y^2=1017422.19$	$\Sigma XY=38908655.37$

$$\begin{aligned}
 \text{Cor (r)} &= \frac{N \times \Sigma XY - \Sigma x \times \Sigma y}{\sqrt{N \times \Sigma X^2 - (\Sigma x)^2} \times \sqrt{N \times \Sigma Y^2 - (\Sigma y)^2}} \\
 &= \frac{5 \times 38908655.37 - 80976.1 \times 2165.21}{\sqrt{5 \times 1499861380 - (80976.1)^2} \times \sqrt{5 \times 1017422.19 - (2165.21)^2}} \\
 &= \frac{19213015.42}{19388322.00} \\
 &= 0.9909 \\
 &= 0.991
 \end{aligned}$$

E. Correlation Between ROSE and EPS

✧ Himalayan Bank Limited

F.Y	ROSE (X)	EPS (Y)	X^2	Y^2	XY
03/04	19.87	49.05	394.8169	2405.9025	974.6235
04/05	20	47.91	400	2295.3681	958.2
05/06	25.9	59.24	670.81	3509.3776	1534.316

06/07	22.91	60.66	524.8681	3679.6356	1389.7206
07/08	23.35	64.57	545.2225	4169.2849	1507.7095
Total	$\sum x=112.03$	$\sum y=281.43$	$\sum x^2=2535.7175$	$\sum Y^2=16059.5687$	$\sum XY=6364.5696$

$$\begin{aligned}
 \text{Cor (r)} &= \frac{N \times \sum XY - \sum x \times \sum y}{\sqrt{N \times \sum X^2 - (\sum x)^2} \times \sqrt{N \times \sum Y^2 - (\sum y)^2}} \\
 &= \frac{5 \times 6364.5696 - 112.03 \times 281.43}{\sqrt{5 \times 2535.7175 - (112.03)^2} \times \sqrt{5 \times 16059.5687 - (281.43)^2}} \\
 &= \frac{294.25}{374.20} \\
 &= 0.7863 \\
 &= 0.79
 \end{aligned}$$

✧ Standard Chartered Bank Limited

F.Y	ROSE (X)	EPS (Y)	X ²	Y ²	XY
03/04	35.96	143.55	1293.1216	20606.6025	5162.058
04/05	33.89	143.14	1148.5321	20489.0596	4851.0146
05/06	37.56	175.84	1410.7536	30919.7056	6604.5504
06/07	32.68	167.37	1067.9824	28012.7169	5469.6516
07/08	27.78	131.18	771.7284	17208.1924	3644.1804
Total	$\sum x=167.87$	$\sum y=761.08$	$\sum X^2=5692.11$	$\sum Y^2=117236.28$	$\sum XY=25731.45$

$$\begin{aligned}
 \text{Cor (r)} &= \frac{N \times \sum XY - \sum x \times \sum y}{\sqrt{N \times \sum X^2 - (\sum x)^2} \times \sqrt{N \times \sum Y^2 - (\sum y)^2}} \\
 &= \frac{5 \times 25731.45 - 167.87 \times 761.08}{\sqrt{5 \times 5692.11 - (167.87)^2} \times \sqrt{5 \times 117236.28 - (761.08)^2}} \\
 &= \frac{894.75}{1394.38} \\
 &= 0.6416 \\
 &= 0.64
 \end{aligned}$$

✧ Everest Bank Limited

F.Y	ROSE (X)	EPS (Y)	X ²	Y ²	XY
03/04	26.57	45.58	705.9649	2077.5364	1211.0606
04/05	20.2	32.47	408.04	1054.3009	655.894
05/06	24.65	45.81	607.6225	2098.5561	1129.2165
06/07	24.67	57.22	608.6089	3274.1284	1411.6174
07/08	15.63	54.14	244.2969	2931.1396	846.2082

Total	$\sum x = 112.02$	$\sum y = 235.22$	$\sum X^2 = 2584.00$	$\sum Y^2 = 11435.67$	$\sum XY = 5270.24$
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$$\begin{aligned}
 \text{Cor (r)} &= \frac{N \times \sum XY - \sum x \times \sum y}{\sqrt{N \sum X^2 - (\sum x)^2} \times \sqrt{N \sum Y^2 - (\sum y)^2}} \\
 &= \frac{5 \times 5270.24 - 112.02 \times 235.22}{\sqrt{5 \times 2584.00 - (112.02)^2} \times \sqrt{5 \times 11435.67 - (235.22)^2}} \\
 &= \frac{1.8556}{829.02} \\
 &= 0.0022
 \end{aligned}$$



APPENDIX-III

Calculation of Degree of Financial Leverage (DFL)

a. HBL

F.Y.	EPS	Change in EPS	% change in EPS	EBIT	Change in EBIT	% Change in EBIT	DFL
03/04	49.05	-	-	912.11	-	-	-
04/05	47.91	-1.14	-2.32	1084.50	172.39	18.90	-0.12
05/06	59.24	11.33	23.65	1321.24	236.74	21.83	1.08
06/07	60.66	1.42	2.40	1484.81	163.57	12.38	0.19
07/08	64.57	3.91	6.45	1779.08	294.27	19.82	0.33

B. SCBL

F.Y.	EPS	Change in EPS	% change in EPS	EBIT	Change in EBIT	% Change in EBIT	DFL
03/04	143.55	-	-	1045.83	-	-	-
04/05	143.14	-0.41	-0.2856	1052.28	6.45	0.6167	-0.46
05/06	175.84	32.7	22.85	1342.57	290.29	27.59	0.83
06/07	167.37	-8.47	-4.82	1429.16	86.59	6.45	-0.75
07/08	131.18	-36.19	-21.62	1665.10	235.94	16.51	-1.31

C. EBL

F.Y.	EPS	Change in EPS	% change in EPS	EBIT	Change in EBIT	% Change in EBIT	DFL
03/04	45.58	-	-	525.56	-	-	-
04/05	32.47	-13.11	-28.76	552.29	26.73	5.09	-5.65
05/06	45.81	13.34	41.08	747.00	194.71	35.26	1.17
06/07	57.22	11.41	24.91	971.88	224.88	30.10	0.83
07/08	54.14	-3.08	-5.38	1289.74	317.86	32.71	-0.16



APPENDIX-IV

Calculation of Earning Per share Trend of HBL

Year (x)	EPS (Y)	X=x-(05/06)	X ²	XY	Y=a+bx
03/04	49.05	-2	4	-98.10	47.53
04/05	47.91	-1	1	-47.91	51.91
05/06	59.24	0	0	0	56.29
06/07	60.66	1	1	60.66	60.67
07/08	64.57	2	4	129.14	65.04
	$\sum Y=281.43$	$\sum X=0$	$\sum X^2=10$	$\sum XY=43.70$	

Calculation of a,b value

We know,

The straight line trend is given by the following formula

$$Y=a+bx\ldots\ldots\ldots(1)$$

Where,

y= value of total deposit

a= Total deposit

b= Rate of change of total deposit

x= year

$$a = \frac{\sum Y}{n} = \frac{281.43}{5} = 56.286$$

$$b = \frac{\sum XY}{\sum X^2} = \frac{43.79}{10} = 4.379$$

Putting the value of 'a' and 'b' in equation 1

If X=2008/09

Then,

$$Y=56.286+(4.379) \times 3$$

$$= 69.423$$

Similarly, If X= 2009/2010

Then,

$$Y=56.286+(4.379) \times 4$$

$$= 73.802$$

Calculation of Earning Per share Trend of SCBL

Year (x)	EPS (Y)	X=x-(05/06)	X ²	XY	Y=a+bx
03/04	143.55	-2	4	-287.10	152.318
04/05	143.14	-1	1	-143.14	152.267
05/06	175.84	0	0	0	152.216
06/07	167.37	1	1	167.37	152.165
07/08	131.18	2	4	262.36	152.114
	$\sum Y=761.08$	$\sum X=0$	$\sum X^2=10$	$\sum XY=-0.51$	

Calculation of a,b value

We know,

The straight line trend is given by the following formula

$$Y=a+bx \dots \dots \dots (1)$$

Where,

y= value of total deposit

a= Total deposit

b= Rate of change of total deposit

x= year

$$a = \frac{\sum Y}{n} = \frac{761.08}{5} = 152.216 \qquad b = \frac{\sum XY}{\sum X^2} = \frac{-0.51}{10} = -0.051$$

Putting the value of 'a' and 'b' in equation 1

If X=2008/09

Then,

$$Y=152.216+(-0.051) \times 3 \\ = 152.063$$

Similarly, If X= 2009/2010

Then,

$$Y=152.216+(-0.051) \times 4 \\ = 152.012$$

Calculation of Loan and Advance Trend of HBL

Year (x)	Loan &	X=x-(05/06)	X ²	XY	Y=a+bx
----------	--------	-------------	----------------	----	--------

	Advance (Y)				
03/04	11951.87	-2	4	-23903.74	11033.52
04/05	12424.52	-1	1	-12424.52	13136.41
05/06	14642.56	0	0	0	15239.31
06/07	16998.00	1	1	16998.00	17342.21
07/08	20179.61	2	4	40359.22	19445.10
	$\sum Y = 76196.56$	$\sum X = 0$	$\sum X^2 = 10$	$\sum XY = 21028.96$	

Calculation of a,b value

We know,

The straight line trend is given by the following formula

$$Y = a + bx \dots \dots \dots (1)$$

Where,

y= value of total deposit

a= Total deposit

b= Rate of change of total deposit

x= year

$$a = \frac{\sum Y}{n} = \frac{76196.56}{5} = 15239.31 \quad b = \frac{\sum XY}{\sum X^2} = \frac{21028.96}{10} = 210.896$$

Putting the value of 'a' and 'b' in equation 1

If X=2008/09

Then,

$$Y = 15239.31 + (210.896) \times 3 \\ = 21547.998$$

Similarly, If X= 2009/2010

Then,

$$Y = 15239.31 + (210.896) \times 4 \\ = 23650.894$$

Calculation of Loan and Advance Trend of SCBL

Year (x)	Loan & Advance (Y)	X=x-(05/06)	X ²	XY	Y=a+bx
----------	--------------------	-------------	----------------	----	--------

03/04	6410.24	-2	4	-12820.48	6097.62
04/05	8143.21	-1	1	-8143.21	7844.40
05/06	8925.42	0	0	0	9591.18
06/07	10502.64	1	1	10502.64	11337.96
07/08	13964.41	2	4	27928.82	13084.74
	$\sum Y = 47655.92$	$\sum X = 0$	$\sum X^2 = 10$	$\sum XY = 17467.77$	

Calculation of a,b value

We know,

The straight line trend is given by the following formula

$$Y = a + bx \dots \dots \dots (1)$$

Where,

y= value of total deposit

a= Total deposit

b= Rate of change of total deposit

x= year

$$a = \frac{\sum Y}{n} = \frac{47655.92}{5} = 9591.184$$

$$b = \frac{\sum XY}{\sum X^2} = \frac{17467.77}{10} = 1746.78$$

Putting the value of 'a' and 'b' in equation 1

If X=2008/09

Then,

$$Y = 9591.18 + (1746.78) \times 3$$

$$= 14831.520$$

Similarly, If X= 2009/2010

Then,

$$Y = 9591.18 + (1746.78) \times 4$$

$$= 16578.30$$

Calculation of Loan and Advance Trend of EBL

Year (x)	Loan & Advance (Y)	X=x-(05/06)	X ²	XY	Y=a+bx
03/04	5884.12	-2	4	-11768.24	4770.92

04/05	7618.67	-1	1	-7618.67	7965.92
05/06	9801.31	0	0	0	11160.92
06/07	13664.08	1	1	13664.08	14355.92
07/08	18836.43	2	4	37672.86	17550.92
	$\sum Y = 55804.61$	$\sum X = 0$	$\sum X^2 = 10$	$\sum XY = 31950.03$	

Calculation of a,b value

We know,

The straight line trend is given by the following formula

$$Y = a + bx \dots \dots \dots (1)$$

Where,

y= value of total deposit

a= Total deposit

b= Rate of change of total deposit

x= year

$$a = \frac{\sum Y}{n} = \frac{55804.61}{5} = 11160.92 \quad b = \frac{\sum XY}{\sum X^2} = \frac{31950.03}{10} = 3195.0$$

Putting the value of 'a' and 'b' in equation 1

If X=2008/09

Then,

$$Y = 11160.92 + (3195.0) \times 3 \\ = 20745.92$$

Similarly, If X= 2009/2010

Then,

$$Y = 11160.92 + (3195.0) \times 4 \\ = 23940.92$$

Calculation of Total Expenditure Trend of HBL

Year (x)	Total Expenditure (Y)	X=x-(05/06)	X ²	XY	Y=a+bx
03/04	1064.34	-2	4	-2128.64	1061.49
04/05	1149.89	-1	1	-1149.89	1210.16

05/06	1425.52	0	0	0	1358.83
06/07	1543.63	1	1	1543.63	1507.502
07/08	1610.80	2	4	3221.60	1656.172
	$\sum Y = 6794.16$	$\sum X = 0$	$\sum X^2 = 10$	$\sum XY = 1486.70$	

Calculation of a,b value

We know,

The straight line trend is given by the following formula

$$Y = a + bx \dots \dots \dots (1)$$

Where,

y= value of total deposit

a= Total deposit

b= Rate of change of total deposit

x= year

$$a = \frac{\sum Y}{n} = \frac{6794.16}{5} = 1358.83$$

$$b = \frac{\sum XY}{\sum X^2} = \frac{1486.70}{10} = 148.67$$

Putting the value of 'a' and 'b' in equation 1

If X=2008/09

Then,

$$Y = 1358.83 + (148.67) \times 3$$

$$= 1804.842$$

Similarly, If X= 2009/2010

Then,

$$Y = 1358.83 + (148.67) \times 4$$

$$= 1953.51$$

Calculation of Total Expenditure Trend of SCBL

Year (x)	Total Expenditure (Y)	X=x-(05/06)	X ²	XY	Y=a+bx
03/04	744.22	-2	4	-1488.44	704.700
04/05	775.77	-1	1	-775.77	795.225
05/06	834.18	0	0	0	885.75

06/07	979.70	1	1	979.70	976.275
07/08	1094.88	2	4	2189.76	1066.800
	$\Sigma Y=4428.75$	$\Sigma X=0$	$\Sigma X^2=10$	$\Sigma XY=905.25$	

Calculation of a,b value

We know,

The straight line trend is given by the following formula

$$Y=a+bx\ldots\ldots\ldots(1)$$

Where,

y= value of total deposit

a= Total deposit

b= Rate of change of total deposit

x= year

$$a = \frac{\Sigma Y}{n} = \frac{4428.75}{5} = 885.75$$

$$b = \frac{\Sigma XY}{\Sigma X^2} = \frac{905.25}{10} = 90.525$$

Putting the value of 'a' and 'b' in equation 1

If X=2008/09

Then,

$$Y=885.75+(90.525) \times 3$$

$$= 1157.325$$

Similarly, If X= 2009/2010

Then,

$$Y=885.75+(90.525) \times 4$$

$$= 1247.85$$

Calculation of Total Expenditure Trend of EBL

Year (x)	Total Expenditure (Y)	$X=x-(05/06)$	X^2	XY	$Y=a+bx$
03/04	554.2	-2	4	-1108.4	704.700
04/05	606.24	-1	1	-606.24	795.225
05/06	720.91	0	0	0	885.75
06/07	916.00	1	1	916.00	976.275

07/08	1189.93	2	4	2378.86	1066.800
	$\sum Y=3987.28$	$\sum X=0$	$\sum X^2=10$	$\sum XY=2792.70$	

Calculation of a,b value

We know,

The straight line trend is given by the following formula

$$Y=a+bx \dots \dots \dots (1)$$

Where,

y= value of total deposit

a= Total deposit

b= Rate of change of total deposit

x= year

$$a = \frac{\sum Y}{n} = \frac{3987.28}{5} = 797.456$$

$$b = \frac{\sum XY}{\sum X^2} = \frac{2792.70}{10} = 279.27$$

Putting the value of 'a' and 'b' in equation 1

If X=2008/09

Then,

$$Y = 797.456 + (279.70) \times 3$$

$$= 1635.270$$

Similarly, If X= 2009/2010

Then,

$$Y = 797.456 + (279.70) \times 4$$

$$= 1914.54$$

Calculation of Operating Income Trend of EBL

Year (x)	Operating Income (Y)	X=x-(05/06)	X ²	XY	Y=a+bx
03/04	1516.32	-2	4	-3032.64	1998.34
04/05	1672.43	-1	1	-1672.43	2010.55
05/06	2097.92	0	0	0	2022.76
06/07	2261.03	1	1	2261.03	2034.97
07/08	2566.11	2	4	2566.11	2047.18

	$\sum Y = 10113.81$	$\sum X = 0$	$\sum X^2 = 10$	$\sum XY = 122.07$	
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Calculation of a,b value

We know,

The straight line trend is given by the following formula

$$Y = a + bx \dots \dots \dots (1)$$

Where,

y= value of total deposit

a= Total deposit

b= Rate of change of total deposit

x= year

$$a = \frac{\sum Y}{n} = \frac{10113.81}{5} = 2022.76$$

$$b = \frac{\sum XY}{\sum X^2} = \frac{122.07}{10} = 12.21$$

Putting the value of 'a' and 'b' in equation 1

If X=2008/09

Then,

$$Y = 2022.76 + (12.21) \times 3$$

$$= 2059.39$$

Similarly, If X= 2009/2010

Then,

$$Y = 2022.76 + (12.21) \times 4$$

$$= 2071.60$$

Calculation of Operating Income Trend of SCBL

Year (x)	Operating Income (Y)	X=x-(05/06)	X ²	XY	Y=a+bx
03/04	1587.35	-2	4	-3156.7	1931.30
04/05	1573.92	-1	1	-1573.92	1886.64
05/06	1773.56	0	0	0	1841.98
06/07	1995.80	1	1	1995.80	1797.32
07/08	2288.25	2	4	2288.25	1752.66
	$\sum Y = 9209.88$	$\sum X = 0$	$\sum X^2 = 10$	$\sum XY = -446.57$	

Calculation of a,b value

We know,

The straight line trend is given by the following formula

$$Y=a+bx\ldots\ldots\ldots(1)$$

Where,

y= value of total deposit

a= Total deposit

b= Rate of change of total deposit

x= year

$$a = \frac{\sum Y}{n} = \frac{9209.88}{5} = 1841.98$$
$$b = \frac{\sum XY}{\sum X^2} = \frac{-446.57}{10} = -44.66$$

Putting the value of 'a' and 'b' in equation 1

If X=2008/09

Then,

$$Y = 1841.98 + (-44.66) \times 3$$
$$= 1708.00$$

Similarly, If X= 2009/2010

Then,

$$Y = 1841.98 + (-44.66) \times 4$$
$$= 1663.34$$

Calculation of Operating Income Trend of EBL

Year (x)	Operating Income (Y)	X=x-(05/06)	X ²	XY	Y=a+bx
03/04	783.19	-2	4	-1566.38	1026.80
04/05	858.96	-1	1	-858.96	1106.04
05/06	1066.51	0	0	0	1185.28
06/07	1370.71	1	1	1370.71	1264.52
07/08	1847.04	2	4	1847.04	1343.76
	$\sum Y=5926.41$	$\sum X=0$	$\sum X^2=10$	$\sum XY=792.41$	

Calculation of a,b value

We know,

The straight line trend is given by the following formula

$$Y=a+bx\ldots\ldots\ldots(1)$$

Where,

y= value of total deposit

a= Total deposit

b= Rate of change of total deposit

x= year

$$a = \frac{\sum Y}{n} = \frac{5926.41}{5} = 1185.28 \quad b = \frac{\sum XY}{\sum X^2} = \frac{792.41}{10} = 79.24$$

Putting the value of 'a' and 'b' in equation 1

If X=2008/09

Then,

$$Y = 1185.28 + (79.24) \times 3 \\ = 1423.00$$

Similarly, If X= 2009/2010

Then,

$$Y = 1185.28 + (79.24) \times 4 \\ = 1502.24$$

Calculation of Total Deposit Trend of HBL

Year (x)	Total Deposit (Y)	X=x-(05/06)	X ²	XY	Y=a+bx
03/04	22010.34	-2	4	-44020.68	22041.99
04/05	24814.01	-1	1	-24814.01	24551.34
05/06	26490.85	0	0	0	27060.69
06/07	30048.42	1	1	30048.42	29570.03
07/08	31939.87	2	4	63879.74	32079.37
	$\sum Y=135303.49$	$\sum X=0$	$\sum X^2=10$	$\sum XY=25093.47$	

Calculation of a,b value

We know,

The straight line trend is given by the following formula

$$Y=a+bx.....(1)$$

Where,

y= value of total deposit

a= Total deposit

b= Rate of change of total deposit

x= year

$$a = \frac{\sum Y}{n} = \frac{135303.4}{5} = 27060.69$$

$$b = \frac{\sum XY}{\sum X^2} = \frac{25093.47}{10} = 2509.347$$

Putting the value of 'a' and 'b' in equation 1

If X=2008/09

Then,

$$Y = 27060.69 + (2509.347) \times 3$$

$$= 34588.71$$

Similarly, If X= 2009/2010

Then,

$$Y = 27060.69 + (2509.347) \times 4$$

$$= 37098.05$$

Calculation of Total Deposit Trend of SCBL

Year (x)	Total Deposit (Y)	X=x-(05/06)	X ²	XY	Y=a+bx
03/04	21161.46	-2	4	-42322.92	19103.69
04/05	193636.47	-1	1	-19363.47	21348.53
05/06	23061.03	0	0	0	23595.37
06/07	24647.02	1	1	24647.02	25840.20
07/08	29743.88	2	4	59487.76	28085.04
	$\sum Y = 117976.86$	$\sum X = 0$	$\sum X^2 = 10$	$\sum XY = 22448.39$	

Calculation of a,b value

We know,

The straight line trend is given by the following formula

$$Y=a+bx.....(1)$$

Where,

y= value of total deposit

a= Total deposit

b= Rate of change of total deposit

x= year

$$a = \frac{\sum Y}{n} = \frac{117976.86}{5} = 223595.37$$

$$b = \frac{\sum XY}{\sum X^2} = \frac{22448.39}{10} = 2244.84$$

Putting the value of 'a' and 'b' in equation 1

If X=2008/09

Then,

$$Y = 223595.37 + (2244.84) \times 3$$

$$= 30329.88$$

Similarly, If X= 2009/2010

Then,

$$Y = 223595.37 + (2244.84) \times 4$$

$$= 32524.72$$

Calculation of Total Deposit Trend of EBL

Year (x)	Total Deposit (Y)	X=x-(05/06)	X ²	XY	Y=a+bx
03/04	8063.90	-2	4	-16127.80	6842.65
04/05	10097.69	-1	1	-10097.69	10833.98
05/06	13802.44	0	0	0	14825.31
06/07	18186.25	1	1	18186.25	18816.64
07/08	23976.30	2	4	47952.60	22807.97
	$\sum Y = 74126.58$	$\sum X = 0$	$\sum X^2 = 10$	$\sum XY = 39913.36$	

Calculation of a,b value

We know,

The straight line trend is given by the following formula

$$Y=a+bx.....(1)$$

Where,

y= value of total deposit

a= Total deposit

b= Rate of change of total deposit

x= year

$$a = \frac{\sum Y}{n} = \frac{74126.58}{5} = 14825.31$$
$$b = \frac{\sum XY}{\sum X^2} = \frac{39913.36}{10} = 3991.33$$

Putting the value of 'a' and 'b' in equation 1

If X=2008/09

Then,

$$Y = 14825.31 + (3991.33) \times 3$$
$$= 26799.30$$

Similarly, If X= 2009/2010

Then,

$$Y = 14825.31 + (3991.33) \times 4$$
$$= 30790.63$$

Calculation of Shareholders Reserve Trend of HBL

Year (x)	Shareholders Reserve (Y)	X=x-(05/06)	X ²	XY	Y=a+bx
03/04	787.92	-2	4	-1575.84	672.93
04/05	898.25	-1	1	-898.25	917.01
05/06	993.98	0	0	0	1161.09
06/07	1335.69	1	1	1335.69	1405.17
07/08	1789.60	2	4	3579.20	1649.25
	$\sum Y = 5805.44$	$\sum X = 0$	$\sum X^2 = 10$	$\sum XY = 2440.80$	

Calculation of a,b value

We know,

The straight line trend is given by the following formula

$$Y = a + bx \dots \dots \dots (1)$$

Where,

y= value of total deposit

a= Total deposit

b= Rate of change of total deposit

x= year

$$a = \frac{\sum Y}{n} = \frac{5805.44}{5} = 1161.09$$
$$b = \frac{\sum XY}{\sum X^2} = \frac{2440.80}{10} = 244.08$$

Putting the value of 'a' and 'b' in equation 1

If X=2008/09

Then,

$$Y = 1161.09 + (244.08) \times 3$$
$$= 1893.33$$

Similarly, If X= 2009/2010

Then,

$$Y = 1161.09 + (244.08) \times 4$$
$$= 2137.41$$

Calculation of Shareholders Reserve Trend of SCBL

Year (x)	Shareholders Reserve (Y)	X=x-(05/06)	X ²	XY	Y=a+bx
03/04	1121.10	-2	4	-2242.2	969.50
04/05	1207.78	-1	1	-1207.78	1256.98
05/06	1379.50	0	0	0	1544.46
06/07	1703.10	1	1	1703.10	1831.94
07/08	2310.84	2	4	4621.68	2119.42
	$\sum Y = 7722.32$	$\sum X = 0$	$\sum X^2 = 10$	$\sum XY = 2874.80$	

Calculation of a,b value

We know,

The straight line trend is given by the following formula

$$Y = a + bx \dots \dots \dots (1)$$

Where,

y= value of total deposit

a= Total deposit

b= Rate of change of total deposit

x= year

$$a = \frac{\sum Y}{n} = \frac{7722.32}{5} = 1544.46$$
$$b = \frac{\sum XY}{\sum X^2} = \frac{2874.80}{10} = 287.48$$

Putting the value of 'a' and 'b' in equation 1

If X=2008/09

Then,

$$Y = 1544.46 + (287.48) \times 3$$
$$= 2406.90$$

Similarly, If X= 2009/2010

Then,

$$Y = 1544.46 + (287.48) \times 4$$
$$= 2694.38$$

Calculation of Shareholders Reserve Trend of EBL

Year (x)	Shareholders Reserve (Y)	X=x-(05/06)	X ²	XY	Y=a+bx
03/04	225.33	-2	4	-450.66	111.29
04/05	314.62	-1	1	-314.62	341.84
05/06	444.81	0	0	0	572.39
06/07	683.52	1	1	683.52	802.94
07/08	1193.65	2	4	2387.30	1033.49
	$\sum Y = 2861.93$	$\sum X = 0$	$\sum X^2 = 10$	$\sum XY = 2305.54$	

Calculation of a,b value

We know,

The straight line trend is given by the following formula

$$Y = a + bx \dots \dots \dots (1)$$

Where,

y= value of total deposit

a= Total deposit

b= Rate of change of total deposit

x= year

$$a = \frac{\sum Y}{n} = \frac{2861.93}{5} \\ = 572.39$$

$$b = \frac{\sum XY}{\sum X^2} = \frac{2305.54}{10} \\ = 230.55$$

Putting the value of 'a' and 'b' in equation 1

If X=2008/09

Then,

$$Y = 572.39 + (230.55) \times 3 \\ = 1264.04$$

Similarly, If X= 2009/2010

Then,

$$Y = 572.39 + (230.55) \times 4 \\ = 1494.59$$



APPENDIX-V

Calculation of t-value

Here,

$$t = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2} \quad \text{Where, } n=5$$

(i) t-value between TA & NPAT

For HBL,

$$\begin{aligned} t &= \frac{0.97}{\sqrt{1-(0.97)^2}} \times \sqrt{5-2} \\ &= \frac{0.97}{0.24} \times 1.7321 \\ &= 7.006 \end{aligned}$$

For SCBL,

$$\begin{aligned} t &= \frac{0.98}{\sqrt{1-(0.98)^2}} \times \sqrt{5-2} \\ &= \frac{0.98}{0.20} \times 1.7321 \\ &= 0.4872 \end{aligned}$$

For EBL,

$$\begin{aligned} t &= \frac{0.99}{\sqrt{1-(0.99)^2}} \times \sqrt{5-2} \\ &= \frac{0.99}{0.14} \times 1.7321 \\ &= 12.2484 \end{aligned}$$

(ii) t-Value between TD and Interest Expenses

For HBL,

$$\begin{aligned} t &= \frac{0.9891}{\sqrt{1-(0.9891)^2}} \times \sqrt{5-2} \\ &= \frac{0.9891}{0.15} \times 1.7321 \\ &= 11.4214 \end{aligned}$$

For SCBL,

$$\begin{aligned} t &= \frac{0.9743}{\sqrt{1-(0.9743)^2}} \times \sqrt{5-2} \\ &= \frac{0.9743}{0.23} \times 1.7321 \\ &= 7.3373 \end{aligned}$$

For EBL,

$$\begin{aligned} t &= \frac{0.99}{\sqrt{1-(0.99)^2}} \times \sqrt{5-2} \\ &= \frac{0.99}{0.14} \times 1.7321 \\ &= 12.2484 \end{aligned}$$

(iii) t- Value between cost of service and net profit

For HBL,

$$\begin{aligned} t &= \frac{0.9673}{\sqrt{1-(0.9673)^2}} \times \sqrt{5-2} \\ &= \frac{0.9673}{0.25} \times 1.7321 \\ &= 6.7018 \end{aligned}$$

For SCBL,

$$\begin{aligned} t &= \frac{0.9573}{\sqrt{1-(0.9573)^2}} \times \sqrt{5-2} \\ &= \frac{0.9573}{0.29} \times 1.7321 \\ &= 7.3373 \end{aligned}$$

For EBL,

$$\begin{aligned} t &= \frac{0.4456}{\sqrt{1-(0.4496)^2}} \times \sqrt{5-2} \\ &= \frac{0.4496}{0.90} \times 1.7321 \\ &= 0.8576 \end{aligned}$$

(iv) t-Value between TD and shareholder's Equity

For HBL,

$$\begin{aligned} t &= \frac{0.9104}{\sqrt{1-(0.9104)^2}} \times \sqrt{5-2} \\ &= \frac{0.9104}{0.41} \times 1.7321 \\ &= 3.8461 \end{aligned}$$

For SCBL,

$$\begin{aligned} t &= \frac{0.9497}{\sqrt{1-(0.9497)^2}} \times \sqrt{5-2} \\ &= \frac{0.9497}{0.31} \times 1.7321 \\ &= 5.3064 \end{aligned}$$

For EBL,

$$\begin{aligned} t &= \frac{0.9543}{\sqrt{1-(0.9543)^2}} \times \sqrt{5-2} \\ &= \frac{0.9543}{0.30} \times 1.7321 \\ &= 5.5098 \end{aligned}$$

(v) t-value between ROSE and EPS.

For HBL,

$$t = \frac{0.7683}{\sqrt{1-(0.7683)^2}} \times \sqrt{5-2}$$

$$= \frac{0.7683}{0.6401} \times 1.7321$$

$$= 2.0790$$

For SCBL,

$$t = \frac{0.6416}{\sqrt{1-(0.6416)^2}} \times \sqrt{5-2}$$

$$t = \frac{0.6416}{0.7670} \times 1.7321$$

$$t = 5.3064$$

For EBL,

$$t = \frac{0.0022}{\sqrt{1-(0.0022)^2}}$$

$$t = \frac{0.0022}{0.9999} \times 1.7321$$

$$t = 0.00381$$

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Himalayan Bank Limited
Thamel Kathmandu

Some key figures of B/S and P/L account with brief financial indicator

	2060/61 2003/04	2061/62 2004/05	2062/63 2005/06	2063/64 2006/07	2064/65 2007/08
Brief Financial Indicator					
Earning per share	49.05	47.91	59.24	60.66	64.57
Dividend per share	0.00	11.58	30.00	15.00	0.00
Earning Yield	5.84%	20.00%	25.90%	22.91%	23.35%
Price earning Ratio	17.12	19.20	18.57	28.69	30.67
Market price	840	920	1100	1740	1980
Capital Structure					
Authorised Capital	1000.00	1000.00	1000.00	1000.00	2000.00
Issued Capital	650.00	650.00	772.20	810.81	1013.51
Liabilities					
Issued and paid up capital	536.25	643.50	772.20	810.81	1013.51
Reserve and Surplus	787.92	898.25	993.98	1335.69	1789.60
Debenture	360.00	360.00	360.00	360.00	860.00
Borrowings	46.98	146.05	144.62	235.97	10.00
Deposit	22010.34	24814.01	26490.85	30048.42	31939.87
Others	1020.55	556.35	698.74	728.26	2035.36
Total	<u>24762.04</u>	27,418.16	29,460.39	35,519.14	37,648.34
Assets					
Cash and bank balance	2001.19	1890.68	1401.68	1449.79	1396.72
Investment	9292.11	12257.21	12209.98	13840.56	13858.71
Loan, advances & overdraft	11951.87	12424.62	14642.56	16998.00	20179.61
Fixed assets	299.64	295.82	540.82	574.06	997.91
Others	1217.23	549.92	665.34	656.73	1215.40
Total	<u>24,762.04</u>	27,418.25	29,460.39	33,519.14	37,648.35
Profit and loss account					
Interest income	1245.89	1446.47	1626.47	1775.58	1978.29
Other operating income	270.43	311.42	415.90	385.19	463.21
Non operating income	3.30	-85.46	55.55	100.26	124.62
Total income	1519.62	1672.43	2097.92	2261.03	2566.12
Expenditure					
Interest expenses	491.54	561.96	648.84	767.41	823.76
Overhead expenses	152.51	178.59	234.59	272.23	297.26
Operating expenses	408.27	277.38	329.70	341.56	341.28
Provision for bonus	46.73	58.06	67.24	71.74	95.53
Total expenditure	1099.05	1075.99	1280.37	1452.94	1557.83
Profit before tax	420.57	522.54	672.40	717.40	955.32
Tax provision	157.52	214.27	214.94	225.58	300.92
Net profit after tax	263.05	308.28	457.46	491.82	654.39

Standard Chartered Bank
Some key figures of B/S and P/L account with brief financial indicator

	2060/61 2003/04	2061/62 2004/05	2062/63 2005/06	2063/64 2006/07	2064/65 2007/08
Brief Financial Indicator					
Earning per share	143.55	143.14	175.85	167.37	131.18
Dividend per share	110.00	120.00	120.00	80.00	0.00
Earning Yield	8.23%	33.89%	37.55%	32.68%	27.78%
Price earning Ratio	12.16	16.38	21.47	35.25	52.02
Market price	1745	2345	3775	5900	6830
Capital Structure					
	Rs. in Million				
Authorised Capital	1000.00	1000.00	1000.00	1000.00	1000.00
Issued Capital	500.00	500.00	500.00	500.00	500.00
Liabilities					
Issued and paid up capital	374.64	374.64	374.64	413.25	620.78
Reserve and Surplus	1121.10	1207.78	1379.50	1703.10	2310.84
Deposit	21161.46	19363.47	23061.03	24647.02	29743.88
Others	984.86	808.24	952.18	1433.32	818.69
Total	23642.06	21754.13	25767.35	28196.69	33494.19
Assets					
Cash and bank balance	2023.16	887.65	1029.25	1992.18	2050.24
Investment	11349.14	12185.71	15062.82	15343.23	16100.36
Loan, advances & overdraft	6410.24	8143.21	8935.42	10502.64	13964.41
Fixed assets	136.24	71.41	101.30	125.59	117.27
Others	3723.28	493.70	638.56	633.05	1261.92
Total	23642.06	21754.13	25767.35	28596.69	33494.19
Profit and loss account					
Interest income	1042.18	1058.68	1189.60	1411.98	1591.20
Other operating income	536.17	480.99	531.84	559.08	654.68
Non operating income	5.56	34.25	52.11	24.74	42.38
Total income	1583.91	1573.92	1773.55	1995.8	2288.26
Expenditure					
Interest expenses	272.24	254.13	303.20	413.06	471.73
Overhead expenses	134.69	148.59	168.23	199.78	225.26
Operating expenses	317.54	256.65	221.09	228.45	230.57
Provision for bonus	85.95	88.68	93.94	101.61	119.34
Total expenditure	810.42	748.05	786.46	942.9	1046.9
Profit before tax	810.42	775.77	834.18	979.70	1094.88
Tax provision	773.59	798.15	939.37	1016.10	1193.37
Net profit after tax	537.8	536.24	658.76	691.67	814.37

Everest Bank Limited
Lazimpat, Kathmandu
Some key figures of B/S and P/L account with brief financial indicator

	2060/61 2003/04	2061/62 2004/05	2062/63 2005/06	2063/64 2006/07	2064/65 2007/08
Brief Financial Indicator					
Earning per share	45.58	32.47	45.81	57.22	54.14
Dividend per share	20.00	0.00	25.00	10.00	0.00
Earning Yield	6.7%	20.20%	24.65%	24.67%	22.23%
Price earning Ratio	14.92	26.79	30.10	42.47	57.85
Market price	680	870	1379	2430	3132
Capital Structure					
	Rs. In Million				
Authorised Capital	600.00	600.00	600.00	1000.00	1000.00
Issued Capital	529.80	529.80	529.80	729.80	729.80
Liabilities					
Issued and paid up capital	315.00	518.00	315.00	518.00	831.40
Reserve and Surplus	225.33	314.62	448.81	683.52	1193.65
Debenture	300.00	300.00	300.00	300.00	300.00
Borrowings	0.00	0.00	0.00	0.00	0.00
Deposit	8063.90	10097.69	13802.44	18186.25	23979.30
Others	704.33	502.21	894.03	1744.81	1504.14
Total	9608.56	11732.52	15760.28	21432.58	27808.49
Assets					
Cash and bank balance	631.81	972.26	1398.86	1713.19	2852.43
Investment	2466.43	2776.66	4421.58	5662.54	5407.16
Loan, advances & overdraft	5884.12	7618.67	9801.31	13664.08	18836.43
Fixed assets	118.37	134.07	152.09	170.10	314.94
Others	507.83	230.86	185.44	222.66	394.52
Total	9608.56	11732.52	15959.28	21432.57	27805.48
Profit and loss account					
Interest income	657.25	719.30	903.41	1144.41	1547.91
Other operating income	125.94	136.69	160.14	214.09	299.13
Non operating income	1.87	2.97	2.96	12.21	0.00
Total income	785.06	858.96	1066.51	1370.71	1847.04
Expenditure					
Interest expenses	314.44	299.57	401.40	517.17	632.63
Overhead expenses	48.53	60.60	70.92	86.12	157.10
Operating expenses	187.51	129.07	143.56	117.55	236.74
Provision for bonus	23.46	28.08	34.56	45.47	65.71
Total expenditure	573.94	517.32	650.44	766.31	1092.18
Profit before tax	573.94	606.24	720.91	916.00	1189.93
Tax provision	211.12	252.72	345.60	454.71	657.11
Net profit after tax	143.57	168.21	237.29	296.41	450.12